APPENDIX No. 1.

TRANSATLANTIC PACKET STATION COMMISSION.

QUERIES. (No. 1.)

Queries.

To Naval Officers having served on the coast of Ireland.

1. Cork.
   Long Island (near Cape Clear).
   Crookhaven.
   Berehaven (Bantry Bay).
   Valentia.
   Tarbert (River Shannon).
   Galway.
   Dunmanus Bay.

On which of those ports can you give facts and confident opinions?

2. What are the advantages or disadvantages of establishing a Transatlantic Packet Station at any of those ports, with your reasons?

3. What are the facilities or difficulties—with reference to shoals, rocks, or nature of coast, or to leading lights, or frequent haze—of making the west coast of Ireland, or the ports referred to in No. 1, at all seasons of the year, and in all weathers, by such vessels as Transatlantic Packets drawing 19½ feet water, and as compared with each other, or with Liverpool, or the ports in the English Channel?

4. What light or headland would such vessels, homeward bound, first make for?

5. What are the facilities afforded by each port, or likely to be created, for embarking and landing the mails, goods, and passengers, with convenience and rapidity at all times—such as wharves and docks; are they at all times available, or only in certain states of the tide; or is their use liable to be impeded during certain strong winds and bad weather; what depth of water do the entrances, the wharf walls, and the approach to them afford?—and, in width of entrance and approach, are they adapted to such vessels?

6. During the periods when the wharves or docks cannot be reached, what is the nature of the anchorage, and could mails, passengers, &c., be immediately and conveniently landed or embarked, in all weathers, by boats or small craft?

7. What are the conveniences afforded by the port or ports, or which may be expected to be created, for repairs and maintenance of the packets, and their engines, boilers, and machinery in general, as well as for obtaining supplies?—what are the means for the storage of goods, and for the accommodation of passengers?—what for coaling?

8. What is the ordinary price of coal adapted to these vessels, and what might it probably be if the supply required at the port should by the proposed establishment greatly exceed the back freight, by which the price is probably now influenced?

9. What are the means available now, or in contemplation for intercourse with the interior in different directions, and in particular towards the capital and the manufacturing districts?—and how would those communications be adapted for mails, passengers, and goods, in rapidity, security from loss and injury, and in expense?

10. Add any other matter that may be conceived to bear upon the subject.

QUERIES. (No. 2.)

To Messrs. Cunard and Co.

1. What is the value and number of the steam packets you are bound to keep up, to perform the voyages you have engaged to make in the year between Liverpool and New York?

2. What description of goods and tonnage do you generally take out; and, if you can, state from whence they are sent to Liverpool to be shipped?

3. What description of goods and tonnage do you generally bring home; and, if you can, state where they are sent to from Liverpool?

4. What was the number of cabin and steerage passengers whom each of the last four packets took out; the sum paid by one of each class of passengers; and the weight of luggage allowed without charge?

5. What was the number of cabin and steerage passengers whom each of the last four packets brought home; the sum paid by one of each class of passengers, and the weight of luggage allowed without charge; and, if you can, state how many passengers had to pay for extra weight of luggage that came to England in each of the four last packets, and the charge per cwt.?

6. How much do you charge for cargo per ton; and how much per cargo for measurement?

7. Are any transit goods shipped at Liverpool from foreign countries in the North American Packets; and if so, from what countries do they come?—What is the description and tonnage of such goods?—Are they sent to Liverpool by sea—and from what port?—or by railroad, and by which?

8. If you have no objection, will you send us copies of the manifests of cargoes of the four last packets that sailed from Liverpool to New York, and of the four last from New York to Liverpool?

9. What was the average rate per hour performed by each of the four last packets out and home?

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QUERIES.

To Mercantile bodies and other persons.

QUERIES. (No. 3.)

1. What would be the effect of establishing the Mail Transatlantic Station at some port on the west or south coast of Ireland, as regards—

a. Gain of time for mails, passengers, goods, and latest intelligence.

b. Expense to the several parties and interests concerned?

2. In what degree would the contract price with Government for conveyance of mails probably be increased or reduced; and what would be the probable reduction in the rates for passage and freights?

3. How far would the facilities and advantages to passengers and transport of goods in general be increased or reduced by such a measure; or if it is thought that the measure would not be generally of advantage, what class of passengers and merchants respectively would avail themselves of the new route, and to what extent or proportion of the general traffic?

4. If it should not be considered advisable to establish entirely a Packet Station at any port in Ireland, how far would it be advantageous to adopt one as a port at which every packet should touch, either outward or inward bound; where she could coal; from whence, when outward bound, she should take her final departure with the mails, &c., and on return land them?

5. If any port in Ireland were to be adopted, either for the Packet Station or for a point to touch at for final departure—which is the most eligible?

6. Are there grounds for supposing that the adoption of a port in Ireland, as the terminus of the voyages of the mail packets, would divert passengers and goods to the competing lines of steamers running from New York to Liverpool and to Havre, so as materially to affect the income of the contract mail line, or that it would call into existence any additional competition?

7. What may be considered a remunerating amount of receipts per voyage out and home for such packets?

QUERIES. (No. 4.)

To City of Dublin Steam Packet Company.

1. What may be deemed the fair average time in which the passage is now made from Holyhead to Kingston, and from Kingston to Holyhead, by the present contract mail packets?

2. Is that calculation made from wharf to wharf, or from pierhead to pierhead?

3. Is it expected that rate will be maintained, or is it likely to be increased or reduced?

QUERIES. (No. 5.)

To Messrs. Cunard and Co.

1. In answer to a query from the Commissioners, the following were stated to have been the average rates per hour, in nautical miles, performed by the latest four preceding packets, viz.:—

Outwards.	Homewards.
12¼	10½
10	11½
9¾	11
12	12½

which gives an average of 10·968 miles out, and 11·375 miles home, and a general average of 11·171 miles out and home.

The Commissioners wish to be informed whether they may safely calculate upon 11 miles per hour *prospectively* for the average passages out and home?

2. Are the average rates above given, as having been performed by the packets, reckoned from wharf to wharf, or from some outer point of each port; and if the latter, what period of time should be added to each voyage to make up the difference, or what rate per hour may be safely allowed for the passage, *including* the time taken up in getting out of the harbour of Liverpool?

3. Do the packets sail from Liverpool at a uniform fixed hour on the appointed day, or at an hour varying according to the tide? if the former, are there not certain periods of tide when a delay takes place for want of water to cross the bar? and how often does that occur, and what is the amount of delay?

4. What amount of difficulty or inconvenience would be avoided, or what amount of advantage or profit as regards increased available tonnage-room for freights or otherwise would be gained, by touching at any port in Ireland for coals, passengers, &c.?

QUERIES. (No. 6.)

To Chester and Holyhead Railway Company.

1. Is there any project for prolonging the line at Holyhead down to the harbour?

2. If there is, what prospect is there of its being carried out?

3. Are there projects for any other alterations or improvements in any part of the line, or at any stations, that would lead to an acceleration of the mails? and what time is it anticipated would be gained by the extension at Holyhead, or other improvement?

4. Are the Directors aware of any other projected arrangement between London and Holyhead that is likely hereafter to lead to accelerating the mails?

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QUERIES. (No. 7.)

Queries.

To Officers of the Navy and Coast-guard who have served on the coast of Ireland.

1. How long were you on the coast of Ireland in the ——?
2. How many winters on the south-west, or west coast?
3. State how often you have been into the ports or harbours of

Cork,	Valentia,
Long Island,	Tarbert,
Crookhaven,	Galway,
Berehaven,	Dunmanus Bay?

4. State your opinion of these ports founded upon your own observations and experience?
5. Did you ever enter or sail from any of the above ports in the night, and if so, state how often, and under what circumstances?
6. Do you consider the navigation of the west coast very dangerous or hazardous in the winter season? and if so, state your reasons?
7. In making a voyage from America in a steam-vessel drawing 19½ feet water, which of the ports would you prefer running for in the winter season?
8. State your reason for giving the preference to the port above named?
9. What headland would you make in the day?
10. What light at night?
11. Would you fearlessly in a dark or hazy night in the depth of winter, in a steam-ship drawing 19½ feet water in all weathers, run for Galway, the Shannon, Valentia, Bantry Bay, or Long Island?
12. Would you run for Cork?
13. If a steam-vessel's machinery was out of order, damaged or defective, would it be prudent in bad weather to run in the night for either of these ports?
14. Under such circumstances, in making a run from America, for what port in Ireland would you steer?

QUERIES. (No. 8.)

To Post Office.

1. At what hours are the mails despatched from London for Dublin, and from Dublin for London?
2. When ought they to be received at the Post Office in Dublin and London respectively?
3. Is the time pretty accurately kept, or what is the extent and frequency of their being delayed?
4. At what times are the mails despatched from London for the undermentioned places, and from the undermentioned places for London? (namely),—

Cork,	Valentia,
Long Island,	Limerick,
Crookhaven,	Galway?
Berehaven,	

5. When ought they to be received at the above-mentioned places and London respectively?
6. By what course are the mails conveyed between Liverpool and Dublin?
7. What are the hours of their being despatched and received at those places?
8. If by packet direct to and from the Mersey, why could they not be made to branch into the line between London and Holyhead?
9. At what hours are the departure and receipt of the mails between Glasgow and Liverpool?
10. Also between Glasgow and Dublin, and by what route is the latter conveyed?
11. On what days and at what hours are the mails despatched from London for New York and Halifax, and on what days and hours do the packets leave Liverpool?
12. On the arrival at Liverpool of the mails from New York, &c., are they sorted there, and those for Liverpool distributed immediately; those for Glasgow and the north, for Manchester, Yorkshire, and the west, and for London and the south, sent off at once by express trains; or do the whole wait for the ordinary periods of delivery, and ordinary mail-trains, whether on week days or on Sundays?
13. What is the course in that respect, with regard to the West India and long sea Packet Mails in general?
14. Are mails for Halifax or New York made up and sent by any other conveyance than by Cunard's Contract Packets *viâ* Liverpool?
15. If so, what are the conveyances, the days and hours?
16. Is the rate by which the mails are conveyed by railway tolerably uniform in Great Britain; and is it the same in Ireland; and what is the computed rate, including stoppages, &c., from Post Office to Post Office?
17. Is it considered of much importance to convey the mails very rapidly from place to place, and particularly between London and Dublin; and is it anticipated that any further acceleration will be obtained?
18. Are particular efforts made with regard to any particular mails, and if so, from what cause, and to what effect?
19. Are any measures in contemplation at the Post Office for the acceleration of the mail communication with the ports of the south and west of Ireland?
20. What is now the average number of letters in the mails, made up at Liverpool, from London, from Dublin, and from Scotland, for North America?
21. Will you add any further information on the subject which is possessed at the Post Office, and which is likely to be useful in the inquiry?

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Queries.

QUERIES. (No. 9.)

To Customs.

Glasgow (Greenock),	Southampton,
Liverpool,	London.

1. What lines of packets or other steamers, paddle or screw, British or foreign, are established between those ports and North America, or touch at those ports on the way to or from North America, and are any other such lines of steamers in contemplation; with any particulars that can be obtained as to their periods of sailing, rates for passengers and freights, &c.?

2. What, in round numbers, is the tonnage of the vessels now performing the voyages referred to; their horse power; the depth of water they draw; their times of going to sea; and their extreme width by which to calculate the openings of the gates to docks or basins that will receive them?

3. Distinguish those that are mail packets, subject to the arrangements of the British or Foreign Governments, and receiving contributions from them,—from those that are entirely on private account?

QUERIES. (No. 10.)

To Capt. Bedford, R.N., Galway.

1. What sort of vessels are employed to carry on the trade between England and Galway; and what water do they draw when loaded?

2. If any foreign vessels, of what description are they; and what water do they draw when loaded?

3. What is the rate of insurance on those vessels in summer and in winter; and if more in winter, why?

4. Has a vessel coming from America, bound to Galway, any chance of picking up a pilot in a gale of wind right in; and do you think it would be prudent for a vessel to attempt to run in to make the land without one, if the weather was as you state in the latter paragraph of your answer No. 3?

5. Would the lead be a good guide in running for Galway Bay in thick weather?

6. Are there any dangers in the channels through, and past, the Arran Islands?

7. Are there any dangers in the upper part of Galway Bay, in the way of taking the anchorage in the night or thick weather?

8. Is the Arran light frequently obscured by fogs?

9. Supposing a steamer was stationed at Galway, to land and embark the mails and passengers from a steamer drawing 19½ feet of water, what horse-power do you think necessary; and what is the greatest draft of water she could draw, to enable her to go alongside of any wharf now in use; and at what time of tide; and how far would that wharf be from the proposed terminus of the railroad from Dublin?

10. When a packet was expected, the small steamer would of course be at an anchor, as near where the packet should anchor as possible. Supposing she arrived just after the time of tide that the small steamer could go up to the nearest wharf to the terminus, how many hours would the mails and passengers have to remain, before there would be water enough for her to go alongside the wharf?

11. If the weather was such as to enable the mails and passengers to be landed in boats at the wharf, how far would the boats have to pull, and how long would it take them, with the wind and tide against them?

12. Supposing a pier was run out from Mutton Island, and that island connected with the mainland as you propose in your answer No 5, how far would the landing-place be from the proposed terminus of the Dublin Railway?

13. You state, in your 5th answer, "During heavy western gales, the sea which sets in might occasionally be such as to prevent communication with the shore by means of an auxiliary steamer, of the size necessary for entering the river when a landing could be effected." How many times has it been brought to your knowledge, and have you seen it blowing so hard from the westward, and such a sea tumbling in, as would prevent an auxiliary steamer going alongside the packet, to put on board or take out the mails and passengers?

14. You state, in your 6th answer, "Except in very rough weather the mails and passengers could be landed or embarked at all times, by means of suitable small craft and boats, together with the construction of a small jetty at Kinmore Point, which would be near the railway." How many times has it been brought to your knowledge, and have you seen such rough weather that it would not be prudent to attempt to land or embark the mails and passengers in small craft and boats, even if a small jetty was constructed at Kinmore point?

QUERIES. (No. 11.)

To Post Office.

1. If Cunard's line of steam packets were ordered to call at Holyhead for the North American mail, at what hour would you despatch the bags from London; and at what hour would they reach the post-office at Holyhead; and how long would it require to prepare the mail for embarkation, and to put them on board the steam-packet for America?

2. What is the expense of the post-office establishment at Liverpool, consequent on Cunard's steam-packets taking the mails on board, and landing them there; what is the cost for conveying the mails from the railway to the post-office, from the post-office to the wharf, and from thence by a small steamer to the packet?

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Queries.

3. If Cunard's steam-packets were ordered to call at Holyhead to embark and land their mails, to what amount could you reduce the expense of the post-office establishment at Liverpool?

4. If the North American mails, now carried by Cunard's packets, were to be embarked and landed at Holyhead, would it be necessary to increase the post-office establishment and accommodation there, and if so, what would be the expense?

5. Supposing the packets arrived at Holyhead from America in the evening, after the last train had left for London, how long would the mails have to remain in the post-office before they were despatched?

6. Would the mails be sent to London without being opened at the Holyhead post-office?

7. If opened, how long would it require to sort the letters and despatch them?

8. Supposing Galway was established as a Transatlantic Packet Station, would you forward the mail-bags by the Chester and Holyhead Railway; if so, at what hour would they leave London, and at what hour would they reach Holyhead; what time would elapse before they were put on board the steam-packet for Kingstown; what would be the additional expense to take the mails across; at what hour would they reach Kingstown; and what time would elapse before they arrived at the Dublin post-office; how long would they have to remain in Dublin; how long would it take in forwarding the mails from thence to the Dublin terminus of the railway running to Galway?

9. Supposing the railway was finished from Dublin to Galway, what time would elapse before the mails reached the post-office at Galway; and what sum would be charged for conveying the mails from Dublin to Galway, and from Galway to Dublin, by this railway?

10. Would it be necessary to increase the post-office establishment and accommodation at Galway, and what would be the cost above what it is now?

11. What time would be required to prepare the mails for embarkation?

12. If the packet from North America arrived at Galway in the evening, after the last train had left for Dublin, how long would the mails be detained in the post-office in Galway before they could be despatched?

13. How long would the North American mails be detained in Dublin, if they reached the post-office there just after the steam-packet had left Kingstown for Holyhead?

QUERIES. (No. 12.)

To Lieut. Turnour, R.N., "Shearwater."

1. What sum is charged the "Shearwater" per ton for coals, and where are they brought from; what water do the colliers draw when loaded?

2. How far does the "Shearwater" lay from the shore, and from the landing-place, and in what depth of water at low-water?

3. How long have you been stationed in Galway?

4. How many days' fog have you had in that time?

5. How many days have you had a gale of wind right in?

6. What wind throws in the heaviest sea?

7. How many days have you been unable to land with safety and dry?

8. How many days that you could not have coaled from a vessel alongside?

9. Is there any part in the harbour in which a steamer drawing 18 or 19 feet of water could lay, so sheltered from a heavy sea setting in, that she could get a vessel alongside to coal, or land and embark the passengers with comfort, and how far will a boat have to row before she reaches the landing place?

10. Describe the landing-place at high and low-water.

11. Is there any shelter for passengers waiting for embarkation, or when they land?

12. What distance is the landing-place from a comfortable inn, and what conveyance is there for passengers to reach it?

13. Supposing a steamer was stationed at Galway to land or embark the mails, the passengers, and their luggage, from a steamer during 18 or 19 feet of water, what horse-power would you recommend?

14. And what is the greatest draft of water she could draw to enable her to go alongside of any wharf now in use?

15. How far are the Arran Islands from the anchorage?

16. Do any merchant steamers belong to the Port of Galway; if so, of what horse-power are they, and what is their draft of water when loaded?

17. How many hours do they take in steaming from the Land's End to Galway?

18. State the time occupied in the transit of letters through the post-office from Galway to London and from London to Galway?

19. If you are acquainted with any other port on the coast of Ireland, will you be good enough to answer these queries so far as they are applicable to that port?

QUERIES. (No. 13.)

To Messrs. Cunard and Co.

1. Where were your steam-packets built?

2. Where were their engines and boilers made?

3. Where are their repairs now executed?

4. If transatlantic packets were to be established from any port in the south or west of Ireland, would much inconvenience arise from there being no adequate docks at such port for

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Queries.

their reception, and no ship-building establishment, nor engine or boiler factories for the repairs?

5. If these should be necessary, must they be on a considerable scale, or would small establishments answer the purpose?

6. Are there any such docks and means at Halifax, Boston, or New York, and are they ample at those places, or is it more advantageous to keep the vessels in order by doing as much as possible in England?

7. What price is paid for coals for the packets at Liverpool, and does that price include putting on board, or is it the price of the coals where they are delivered?

QUERIES. (No. 14.)

To Lloyd's.

1. What (if any) is the difference in the rate of insurance charged on vessels making voyages between Liverpool and North America, and that charged on vessels making voyages between the southern and western ports of Ireland and North America?

2. What difference (if any) is there in the rate of insurance charged on vessels making voyages between North America and the south of Ireland, as compared with that charged on vessels making voyages between North America and the west of Ireland; and in the rate of insurance charged on vessels making such voyages from any one port, compared with that charged on vessels making such voyages from any other port of the south or west coast of Ireland respectively?

QUERIES. (No. 15.)

To Capt. Bevis, R.N., Liverpool.

1. What is the depth of water, at different times of tide, over the sills of the gates of the docks at Liverpool which are used by vessels of the largest class?

2. What is the width of openings of these gates?

3. Are the gates single tidal gates, or double, like canal lock gates, or by caisson?

4. At what period of tide, or depth of water, are the dock gates opened for the ingress or egress of such vessels?

5. Are any tidal basins, without gates, used for this class of vessels?

6. What graving docks, dry docks, or patent slips, have they for repairing such vessels?

7. What may be generally the extreme width, including the paddle-boxes, of Messrs. Cunard's steam-packets?

QUERIES. (No. 16.)

To Messrs. Randall and Carroll.

1. If there be water enough for a steamer, drawing 19½ feet of water, to enter the harbour of Foynes at all times of tide and in the night, will you furnish the Commissioners with a plan of the harbour, and answer the following questions?

2. Is there any wharf or pier where a steamer, drawing 19½ feet of water, could conveniently go alongside in the night at low-water spring tides? if so, state the depth of water at high and low-water springs; the length of the wharf or pier; the number of cranes; what convenience for the landing and embarking passengers at high and low water. What would be charged each time such a steamer made use of the wharf or pier to land and embark her goods, mails, and passengers, with their luggage? Is the wharf or pier on the main land, or on the island? Describe the manner in which the island is connected with the main.

3. What distance is the wharf or pier from the terminus of the railway running from Limerick to Dublin by land? Is there a good road, and what time is required to travel the distance? Presuming Foynes was established as a Transatlantic Packet Station, the railway would be extended to that place, would the mails and passengers with their luggage be conveyed to and from the Dublin Railway terminus in Limerick at the charge that will be demanded when that railway runs to Foynes, and what will be the charge for one person?

4. What is the distance from Foynes to Limerick? If steam-passage vessels ply between those places, what time do they take in performing the distance with the tide, and what time against the tide? Can the passage be made at night, or in foggy weather? How often within the last year has it blown so hard, or the weather been so foggy, that these steamers could not go up or down the river?

5. Supposing a steamer was stationed at Foynes to convey the mails and passengers by the river to Limerick, or from thence to Foynes, what horse power do you think would be necessary, and what would be the greatest draught of water she might draw to enable her to go alongside the nearest wharf at Limerick to the terminus of the Dublin Railway? but if she could only go alongside a wharf at certain times of tide, how near could she get to a convenient landing-place to land and embark the mails, passengers, and their luggage? and what distance would that landing place be from the terminus? What would be charged for this auxiliary steamer making use of the wharf or landing place at Limerick and at Foynes?

6. What conveniences could be allowed the Post-office department, which of necessity must form an establishment at Foynes, if selected as a Transatlantic Packet Station, and what sum would be charged for the requisite accommodation?

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QUERIES. (No. 17.)

QUERIES.

To Master-Attendant Aylen and Naval and Revenue Officers who have served on the coast of Ireland.

1. If coming from Halifax in one of the Transatlantic Steam Packets, and bound to the Shannon, what land or light would you endeavour to make?

2. Would the soundings on the bank off the mouth of the Shannon you examined in June, 1848, be any guide in running to make Loup Head light in a dark night or in foggy weather? Send a copy of the form of the bank with the soundings to show its position with reference to the mouth of the Shannon.

3. Would a vessel have any chance of picking up a pilot off the mouth of the Shannon, or when inside Loop Head, or before she reached the more intricate part of the navigation of the river in a gale of wind right in?

4. Are the dangers so well marked as to enable a steamer, drawing 19½ feet of water, to run up to Tarbert in the night?

5. Supposing it became so thick after passing Loop Head as to render it imprudent to run, is there a safe anchorage near? What distance would you anchor from the shore; and how far would you then be from Limerick by land? and is there any conveyance by which the mails could be forwarded to that place?

6. What is the distance from Loop Head to Tarbert, from Tarbert to Foynes, and from Foynes to Limerick by the river?

7. Is there anything to prevent a steamer, drawing 19½ feet of water, to pass Tarbert and run up to Foynes in a dark night, and at any time of tide? If you have ever been in Foynes Harbour, or anchored off it, describe the harbour and anchorage.

8. Did you ever go up to Limerick from Tarbert in either of the steam-vessels you commanded? if so, at what time of tide; what water did she draw; and did she lay afloat at Limerick?

9. If a small steamer was stationed at Tarbert or Foynes to convey the mails and passengers to and from Limerick by the river at all times of the tide, what horse power would you recommend? and what water could she draw to enable her to go alongside a wharf, or to land at low water, at the nearest place to the terminus of the railway running from Limerick to Dublin? and what distance would that landing place be from the terminus?

QUERIES. (No. 18.)

To Emigration Commissioners.

1. It is stated that the average charge for passage-money for emigrants to North America is about 6*l.* each. Is that statement correct? and if so, does that average rate take man, woman, and children, and include cabin as well as steerage passengers; and what is an ordinary rate for cabin, and what for steerage passengers? Also, what is included in the passage-fare for each class, and how are they all supplied with provisions?

2. The vessels are described as large, of first-rate description and well provided in every respect. Is the business of emigration combined with any other in imports and exports, so as to enable it to be done at so low a rate; and can it only be carried on at that low rate at Liverpool, in consequence of the other business connected with that port?

3. It is stated that the emigration continues throughout every month of the year. Do the different seasons affect the rates charged, and if so, in what way?

4. What is the draft of water of the largest of the vessels engaged in the business of emigration?

5. What is the usual length of passage to New York and Halifax by them?

QUERIES. (No. 19.)

To Post Office.

1. Did not the West India mails formerly touch at Falmouth, and why do they no longer do so?

2. If an Irish Packet Station were established, could the letters arriving there from America be sorted at the Irish port, or would they be sent to some larger town—such as Dublin—for that purpose?

3. Would the expense of sending letters to America, supposing the mail packets started from an Irish port, be greater or less than that of sending them by steamers from Liverpool, as at present?

QUERIES. (No. 20.)

To Lloyd's.

1. What is the rate of premium of insurance from the ports of London and Liverpool to the ports on the west coast of Ireland?

2. What is the rate of premium of insurance from London to Liverpool?

3. What is the difference between the rate for summer and that for winter voyages?

5. What difference of premium would there be on vessels trading between Liverpool and North America and those trading between the west coast of Ireland and North America?

QUERIES. (No. 21.)

To Messrs. Cunard and Co.

1. Do your vessels habitually take a course north of Sable Island, whether bound to Halifax or direct to New York; or are they occasionally obliged to go to the south, even

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Queries.

when bound to Halifax, by floating ice, or other causes; and if so, how often does it occur?

2. How much coal do your vessels consume, on an average, on a voyage out or home; or how much coal per hour of ordinary sea-steaming?

3. What is the average rate of speed, out and home, of your steam vessels, between Cape Clear and Holyhead?

QUERIES. (No. 22.)

To W. Barrett, Esq., Coast-guard service.

1. How long have you commanded the coast-guard station in the North Isle of Arran?

2. If you have kept a meteorological journal, send a copy of it for the years 1849, 1850, and up to the date of this request?

3. What wind causes the heaviest sea?

4. Does the sea get up quickly with those winds, and does it break heavily on the Arran Islands?

5. How long do those gales generally last?

6. When a gale is blowing right in, is the weather so clear that a steamer could run in by day to make the land?

7. Do you consider it would be prudent for a steamer coming from America, and which had not got an observation for some days, to run in for the entrance to the bay of Galway in a gale of wind right in, in a dark winter's night, if she had not made the land before dark?

8. Have you ever seen the sea breaking right across from the island you are on to the main land, and if so, how often in two years?

9. Have you ever known the sea breaking right across the other passages between the Arran Islands, and if so, how often in two years?

REPLIES TO QUERIES. (No. 1.)

Replies to Queries. (No. 1.)

Captain Bedford, R N.

Capt. Bedford, R.N.

1. Galway.

2. The advantages seem to be, acceleration of transit arising from the shortening of the sea voyage, combined with the greater speed of land locomotives on a railway, as compared with that of steam-vessels. The acceleration of passenger traffic and delivery of mails in London might, I conceive, amount to 20 or 24 hours over the present route by Liverpool, and by means of the electric telegraph; and, presuming the practicability of forming such a communication across the Irish Channel, intelligence might reach the British capital about 33 hours sooner; and, furthermore, should circumstances demand an immediate reply to any communication received in London from a port on the western coast of Ireland, or the despatch of a vessel or fleet (supposed to be in readiness at such port), there would result, in this case, by the use of the electric telegraph, a saving of more than two and a half days; the importance of which, considered in reference to the political, belligerent, or mercantile relations which might exist between Great Britain and America, must, I think, be evident.

Another advantage would be obtained by this arrangement, in the decrease of risk on the voyage, thus shortened by about 300 miles, or one-eighth of the present route, and that the most difficult and hazardous portion.

And while such appear to be the advantages which would result to the British Government and to the people of England generally, to Ireland the benefit would be considerably enhanced by the direct communication thus established.

The only material disadvantage (nationally considered) which, I conceive, might arise from making Ireland the terminus of the Transatlantic Packets, would be in the event of a sudden and unexpected rebellion in that country, when the transmission of the mails might be endangered. But it is improbable that such a contingency could occur more than once, as the Government have always the present route by Liverpool to fall back upon.

The possibility of such an event might, at first sight, seem to militate against the selection of an Irish port for a packet station; but when we consider the strong and increasing sympathy existing between the United States and Ireland, produced and strengthened by the continued influx of emigrants into the former country; when we see the enterprising spirit of the Americans daily manifesting itself in some new scheme of policy, in the growing establishment of their steam communications with such places as seem to offer a prospect of remuneration or aggrandizement; and contemplate also the probability that the present unoccupied yet favourable position of the western coast of Ireland for commercial speculation may not long escape their shrewd and penetrating glance, I would most deferentially suggest, whether such reasons do not afford strong arguments for the preoccupation of some eligible port on that coast, particularly when we consider its defenceless and vulnerable condition, and the favourable opportunity which such a state would offer, in time of war, for their naval and military operations. And should the Americans be permitted to establish a line of ocean steamers between their country and Ireland, would it not tend to strengthen their intimacy, and weaken the ties which unite the latter country with Great Britain?

3. The approach from the ocean to Galway Bay is well defined and unmistakable. It posseses an expanded entrance, 20 miles wide, while the magnificent natural breakwater of the Arran Islands, occupying about 14 miles of this expansion, arrests the force of the Atlantic swell, and leaves on either side navigable channels, 3½ and 4 miles wide, together with two smaller sounds between the islands, each about a mile broad, which gives to this spacious inlet

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Capt. Bedford, R.N.

an advantage shared by only one other (viz. Westport Bay) of the numerous Bays which, on the western coast of Ireland, face the Atlantic.

1 do not consider that fogs are prevalent, but I have not had experience in the Irish Channel to enable me to offer a comparison between the two. I have sometimes seen two or three consecutive days of wet mist, but at such times the land could almost always have been discerned at the distance of a mile, and generally much further; and there is no part of the Atlantic face of the Arran Islands or the Clare coast, between Hags and Black Head, that cannot be safely approached to half a mile.

4. Vessels homeward bound would steer direct for the Arran Islands, where there is now a high central light; but the Ballast Board of Dublin intend, I believe, to substitute a light at each extremity of the islands, which will greatly facilitate the navigation.

5. Galway Dock is not capable of receiving vessels of the class of the Transatlantic Packets, drawing 19½ feet of water. It has a clear entrance of 54 feet, an area of rather more than 5 acres, and a depth of from 14 feet to 17 feet at high-water spring tides. There is also a bar before the mouth of the Corrib river, on which there is a depth of only 5 feet at low water of spring tides. The anchorage under Mutton Island, or what is called the harbour, is sufficiently deep, and the holding-ground excellent. During heavy westerly gales, the sea which sets in might occasionally be such as to prevent communication with the shore by means of an auxiliary steamer of the size necessary for entering the river where a landing could be effected; but by uniting Mutton Island with the main land, and projecting a pier about 200 yards in length from the south-east point of the island, a vessel of the required class might go alongside at all times, and readily embark or land her passengers and mails. Much more than this, however, would be necessary to convert the roadstead into a suitable harbour for extensive and commodious mercantile transactions. There cannot be a doubt that its natural features are capable of such improvements as would form a harbour of larger area than that of Kingstown, and, I should imagine, at a much less expense.

6. In the preceding answer I have stated that the anchorage is sufficiently deep; it is also safe for all vessels properly found and managed, under the most unfavourable circumstances of weather. Except in very rough weather the mails and passengers could be landed or embarked at all times by means of suitable small craft and boats, together with the construction of a small jetty, say at Kinmore Point, which would be near the railway.

7. There are two foundries in Galway, where repairs of a minor character could be made; but there is no steam-engine factory, nor, although such might be at once created by the demand, could the packets readily avail themselves of it until there be appropriate docks or wharves. There are several capacious stores, and there would be no want of passenger accommodation whenever it should be required. The packets would have to be coaled by means of small craft, and the distance from the dock to the anchorage is about three-quarters of a mile.

8. The ordinary retail price of coal (Scotch) is from 18*s.* to 20*s.* per ton, delivered; but it seems that, provided there was a steady demand for such quantity as would enable a merchant to freight a vessel continually, it might probably be delivered at the roadstead at about 14*s.* per ton. At present there is scarcely any back freight, in consequence of the failures of the potato crops; but under more favourable circumstances, and with a regular demand, the price of coal might even be lower than above stated.

9. The railway now being constructed will unite Galway with the Irish capital. It is expected that it will be opened throughout in about a year. No line, perhaps, could be better situated for passenger traffic or conveyance of transatlantic mails; for, while it is the shortest route between the western coast and Dublin, it bisects the island into two nearly equal portions.

The accompanying document, written more than a year ago, will, perhaps, supply any deficiency of information in the foregoing statements, and may express more consecutively what I conceive to be the advantages of Galway, in point of natural position, over Liverpool or the other Irish ports. In that document I had not taken Cork into consideration, supposing it to be too far removed for competition, it being about 60 miles further from Halifax than Galway, and perhaps 20 miles more distant from the Irish capital.

Geo. Augustus Bedford,
Commander and Admiralty Surveyor.

(Appendix to the above Replies.)

On the Eligibility of Galway for a Transatlantic Packet Station, considered in reference to other Irish Ports and to Liverpool.

The inhabitants of Galway have for some time been speculating on the possibility of their port being selected by Government as a Transatlantic Packet Station; and since the Parliamentary grant of 500,000*l.* for the extension of the Mullingar Railway to Galway, their minds have been directed with intense anxiety to this all-important topic. And certainly, while pretensions of superior adaptation to this purpose have been put forth from several places in the south and west of Ireland, I think that those which Galway can advance are worthy of serious consideration, should it ever be the intention of Her Majesty's Government to try the advantage of running their packets from Ireland instead of England.

Rapidity of movement is undoubtedly a characteristic of the present time, and efforts are continually being made to accelerate the transit from one place to another. It is no wonder, therefore, that the public attention should be directed towards that route which unites two such important countries as Great Britain and North America, in order to discover whether that high road of commercial enterprise cannot be materially shortened.

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REPLIES TO QUERIES. (No. 1.)

Capt. Bedford, R.N.

Having given some consideration to this subject, and being intimately acquainted with the capabilities of Galway Bay, I have presumed to offer the following remarks.

What, then, may be the time saved by transferring the point of communication on this side of the Atlantic from Liverpool to the western coast of Ireland?

In attempting a solution of this inquiry, I am supposing Halifax to be the connecting link on the western side of the Atlantic; and the shortest distance between this point and Cape Clear may be considered equal to the distance between the same place and Galway,—viz., about 2155 nautical miles —the latter is, in fact, three miles less than the former. These portions of each route may, therefore, be excluded from the question; and the resulting advantage will depend on the difference of the intervals of time in which the remaining portions can be accomplished—the one being performed entirely by sea, and the other principally on a railroad.

The examination of the logs of the North American steam packets would furnish a very close average of the time occupied in the passage between Liverpool and Cape Clear; but in the absence of better data, I will assume nine knots to be the mean rate of the ocean steamers; and, consequently, that part of the voyage would be accomplished in about 33 hours, the distance being 300 miles. It is probable that I may have taken too low an estimate for the rate of the improving class of the ocean steamers; yet the delays which must occur from fogs, or other detentions in the vicinity of the land, will more than compensate for this.

Now, as the route from Galway to Dublin by railway, and from thence to Liverpool by steam vessel, could conjointly be performed in about 14 hours, there would thus be a gain of 19 hours by this way. But as the more expeditious line of Holyhead would undoubtedly be taken for the conveyance of mails and passengers *viâ* Galway, an additional advantage of three hours would be effected, or a gain of 22 hours on the whole Transatlantic route from Halifax to London.

In reference to an average voyage of 11 days, this acceleration may be considered important to the mercantile community; and more especially, perhaps, would its consequences be felt in a political or belligerent point of view, wherein the gain of a few hours might be productive of vital results to this kingdom. But when we call to our aid that wonderful invention of modern times, the electric telegraph, from which the term distance may be practically excluded; and if we concede the possibility of thus connecting Kingstown and Holyhead, the advantage of transferring the ocean terminus from Liverpool to the western coast of Ireland will be far more apparent. For that item in our calculation,—viz., the time occupied in traversing the distance between Galway and Holyhead vanishes; so that we have, in fact, shortened the transit for verbal communication by 33 hours as compared with Liverpool, and which is equivalent to one-eighth of the whole route between that place and Halifax. Supposing, therefore, that, in expectation of a declaration of war from America, we had collected a fleet of men-of-war and troops, say at Galway, in immediate readiness for departure, then nearly three days would be gained, through the agency of the electric telegraph, over any communication by Liverpool exclusively.

I have hitherto referred to Galway to illustrate generally the time that might be saved by the transfer of the North American packets from England to Ireland. I shall now attempt to advance a few observations on the comparative merits of the principal Irish ports which have been put in competition for the honour of being selected as a station for Her Majesty's packets, should such a change be contemplated.

Assuming the points of communication between England and Ireland to be Holyhead and Kingstown, then the port of Galway is the nearest to the latter of all others that come in competition with it, while the junction line divides Ireland into two nearly equal portions; thus affording a convenient "trunk," from whence other lines might ramify to all parts of the country. By means of Loughs Corrib and Mask, which are now being united to each other, and to the sea, by navigable canals, it has a considerable interior water communication towards the north. Its river affords a never-failing and stupendous power for driving machinery, eminently adapting this locality for extensive manufacturing enterprise.

Captain Evans, R.N., in his Report, made in 1835, considers Galway to be "too far north for a packet station, independent of its being situated at the bottom of a bay, which must naturally retard both the arrival and departure of the packets."

Let us now examine these objections by comparing it with Valentia, the nearest port of Ireland to the American continent. Its distance from Halifax is 2123 nautical miles, or 32 miles less than Galway is; and, with an average rate of nine knots per hour, the shorter route could be accomplished in three hours and a half sooner than the other. But against this we have to place the distance of Valentia from Dublin, which is 216 miles, that of Galway being only 130 (taking the present road distances); and this difference of 86 miles, at the rate of 25 miles per hour, very nearly compensates for the gain by sea. I think, therefore, that the first objection, "that Galway is too far north," may be withdrawn; and as to the second, it cannot affect a steamer, whose course lies directly as the bay, which is also so wide as to afford ample room for sailing vessels beating to windward. Indeed, with such a noble bay as Galway, having the Arran Islands lying as a natural breakwater to shield it from the heavy ocean swell, and having channels at the same time of four and five miles in width on either side, together with those between the islands, all having deep water, it seems to me to be rather advantageous—for 20 miles of the voyage may thus be gained under comparative shelter. There are also several harbours and temporary roadsteads along the northern shore, towards Slyne Head, as well as those of Blackhead and Arran—all of which would be available when they became as well known as they ought to be. The approach to Galway Bay is also bold and unmistakeable.

On the other hand, how is it with Valentia?

Although its harbour is undoubtedly excellent when you are in it, yet, according to the same authority which I have before quoted, its channels to the sea are so narrow and beset with shoals, and so exposed to the tremendous waves which beat directly into its very mouth, that it is extremely dangerous for a vessel of any kind to attempt an entrance during a north-westerly or westerly gale, and quite impossible for a sailing vessel to get out, although a powerful steamer might. But even the latter would be endangered, and in all probability lost, should any accident occur to the machinery while in the Narrows, with a heavy swell. In a sailing vessel, too, it is necessary to carry plenty of sail to get out of such a passage, and she might meet, perhaps, in her very teeth, a swell which would endanger her masts.

In my opinion, a harbour to be safe and good, on this and all coasts exposed to an ocean sea, must have a wide and easily accessible channel; contracted entrances, like Valentia, being only fit for com-

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Replies to Queries. (No. 1.)

Capt. Bedford, R.N.

paratively smooth seas, or when covered by some outlying breakwater. The risk of making for such places directly from the ocean is far too great to be compensated by their interior excellencies. Captain Washington had a favourable opportunity of estimating the unfitness of Valentia, when engaged in the Tidal Harbour Commission; for, in attempting to get out in one of Her Majesty's steamers with the Knight of Kerry, and a local pilot on board, they were overtaken by a fog in the Narrows, when the pilot became bewildered, and the steamer was, with risk and difficulty, turned to regain the harbour.

Valentia, then, seems to be ineligible even for steamers, and totally unfit for a harbour of refuge or of traffic on an extensive scale.

Berehaven, in Bantry Bay, possesses, I believe, excellent qualifications for a port, readily adapted for the formation of docks and quays. It is also well situated for clearing the land and making an offing. It is, however, remotely placed, at the very extremity of Ireland, 250 miles from the capital, and only 10 miles nearer to Halifax than Galway is; and therefore it is at least three hours behind it, as a medium of Transatlantic communication. I apprehend, also, there would be considerable difficulty and expense in the construction of a railway between it and Bandon, and to employ a small steamer to complete the line would occasion still further delay.

With respect to Limerick, it is, I should say, out of the question as it is out of the way; and whether Tarbert be entitled to consideration, seems very doubtful. I believe it to be an inconvenient anchorage, and much exposed to easterly winds and a strong ebb tide. It cannot be compared to Galway Bay as a port, neither has it any advantage in the question of distance.

We have seen, then, that Galway possesses several advantages as a port in general, and that it may fairly compete for facility and rapidity of Transatlantic communication with any other in Ireland.

But although the bay is spacious and safe, with a direct channel to the roadstead within Mutton Island, yet it is at present deficient in artificial works, which are indispensable to make it what it ought to be, ere it can become a great commercial depôt, or even afford convenient accommodation for a packet establishment.

The principal work required to convert Galway roadstead into a good harbour, is a breakwater, which should extend one-third of a mile, or more, from the south-east point of Mutton Island rocks, towards the E.S.E. This would include an area with a depth sufficient for any vessel, and entirely shelter the part which is now most exposed, while it would, at the same time, serve as a quay. The position of the lighthouse should then be changed to the extremity of the pier. Mutton Island should be united to the mainland, somewhat about Fairhill, which would be no vast undertaking, as it is already in part accomplished by nature. A communication will then be formed with the shore, and complete the protection to its harbour on the north-western side.

And here, within Mutton Island, seems to be the most advantageous position for docks and basins, which would require but little excavation in their construction, and be accessible at almost any time of tide. On Mutton Island, and the artificial ground formed within it, might be erected steam factories, warehouses, &c., to any extent commensurate with the demand. In considering the advantages which would result from a Transatlantic Packet establishment on the coast of Ireland, this fact should not be lost sight of,—viz., that while Her Majesty's Government, and the inhabitants of Great Britain in general, will receive important benefits by the saving of so much time, to Ireland the advantages will be of yet greater consequence; because with that country the communication will be direct, instead of having to take the present circuitous route, at a considerable sacrifice of time and distance. And for the general circulation of American postal and commercial transactions, there seems to be no place so favourably situated as Galway, occupying as it does a central position on the western coast, as well as being the nearest point to the Irish capital.

Another very material consideration in favour of this arrangement is the decrease of risk, by avoiding the navigation of about 300 miles, including St. George's Channel, or one-eighth of the whole voyage—and that, perhaps, the most difficult part.

Geo. Augustus Bedford,
Commanding Surveyor.

September, 1849.

Captain Caffin, R.N.

Capt. Caffin, R.N.

1. Cork,
   Long Island (near Cape Clear),
   Berehaven (Bantry Bay),
   Tarbert (River Shannon).

The above four ports I know well. Valentia I can also give an opinion upon; Galway I do not know anything about.

2. There can be but one advantage, whilst the disadvantages are many.

The advantage, I conceive, can only be with a view to shortening the distance between land and land; this may be taken, if all things are favourable, as a saving of less than 24 hours in the whole run to New York, that is, between Cape Clear and New York, as compared with Liverpool and New York.

The disadvantages, I conceive, against Ireland generally as a point of departure for America, to be the following:—

1st. The removing the vessels from the very centre of traffic, Liverpool.

2nd. Increasing enormously the working expenses of the ships, and taking from their efficiency, as Ireland affords no such facilities for coal, or docks, and steam factories, as are absolutely necessary for the carrying on successfully so gigantic a concern as the Royal North American Mail Establishment is.

3. Driving all the passengers and freights into the American steamers, as it must be apparent that no passenger with his luggage would undertake to cross to any one of these ports in Ireland to take his passage to America, whilst he could go on board at Liverpool without further trouble. And with goods, the expense of transit between Liverpool and other ports to Ireland, and the damage sustained by the number of shifts goods would be subject to, would quite ruin the trade. Indeed, I think that even Irish shippers (at all events, those on

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REPLIES TO QUERIES. (No. 1.)

Capt. Caffin, R.N.

the east and north coast) would prefer Liverpool as a shipping port for America, not only on account of its easier access, but on account of the probable back freights from that port.

4th. From the necessity of transhipment and changes of conveyance, the mails, passengers, and goods could not have equal security for loss or injury.

3. Fogs are very prevalent, which together with the prevailing westerly winds and frequent gales, with a terrific Atlantic sea breaking upon the irregular coast, renders Ireland very difficult of access; and, indeed, I have often preferred keeping the sea to any approach to so dangerous a shore. The greatest difficulty exists in getting a pilot for any of the ports, nor indeed ought you to put trust in any one you may get on board.

Cork is the only harbour affording any facilities for carrying out this arrangement. Cork has an excellent outer and inner harbour, the latter limited, and steamers drawing 19½ feet could not get higher than Haulbowline, and might interfere with the small space for men-of-war. There is no dock. Small repairs can be done to the machinery at Cork, but all extensive repairs and docking would require the steamer to proceed to Liverpool (this applies to all the ports in Ireland). Coals may be got for about 18*s.* or 20*s.* per ton.

Long Island Sound is a good and well-sheltered harbour, but perfectly devoid of any resources for carrying on such a trade.

Berehaven is an excellent harbour, but perfectly barren as to any resources for this work.

Valentia is well sheltered, but could not be entered by such a class of steamers in gales of wind or at night. [Note.—This western coast of Ireland is most thickly studded with dangers and could not be approached at night unless very fine and clear.]

Tarbert* (River Shannon) is well adapted for such an establishment, but the whole of it would have to be constructed. The land is easier made out, and you may run for it with less danger.

4. In making Cork from the westward, Cape Clear,
„ Long Island „ Cape Clear,
„ Berehaven „ Mizen Head, Cape Clear,
„ Valentia „ Skelly Light Heads,
„ Tarbert „ Blasket and Loop Head,
„ Galway „ Arran Island.

5. Cork is the only harbour affording facilities; the other harbours are perfectly barren for the purpose of carrying out such a service. Cork is deficient in wharves (only the Government one at Haulbowline) which steamers of such a class could go alongside, and has no dry or wet docks.

6. These harbours are all well sheltered, and the mails and passengers could be embarked in boats in nearly all weather. Tarbert being a roadstead, there is some times a nasty sea for a boat there; the ground is not very good holding.

7. Knowing what the requirements of a large Transatlantic Steam Company are, for the maintenance and repairs of their ships, for the obtaining supplies, for storeage of goods, and for the accommodation of passengers, for the loading and discharging of cargo, and for coaling, I, without hesitation, excepting to a limited extent at Cork, pronounce these harbours in their present state perfectly inadequate.

8. The price of coal at Cork in 1846 was, I think, from 18*s.* to 20*s.* per ton; the price would certainly increase as the freight from the pits would be augmented, in consequnce of the quantity required greatly exceeding the usual amount of back freight: this would be felt to a greater extent at a more remote and less frequented port.

9. I can give no certain information touching this question.

With reference to any observations I may have to offer which bear upon the subject, I would venture the following:—

From the very great efforts which the Americans are making to gain an ascendency in ocean steam navigation, not only in England, but all over the world, they would hail any such arrangement as the removal of the North American Mail Steamers to a station in Ireland, as the greatest boon the Government of this country could bestow upon them, and consequently, the most destructive blow to that rivalry (which may almost be termed natural) which is now going on between the American and English companies. Liverpool is the very centre from whence the freights are supplied, as most of the goods for the American market go from Birmingham, Manchester, Sheffield, London, Glasgow, and Liverpool, and no merchant would subject his goods to the transhipment and consequent loss entailed in sending them to any port in Ireland, whilst the American steamer would take them on board for the same freights from the spot. Indeed, I don't doubt that the freights from Liverpool would be remunerative, at a much lower rate than they could possibly be from Ireland, owing to the additional expense a Company would have to bear, from its removal to such a distance from a great depôt, such as Liverpool, where all their wants are immediately met, and from competition, at the lowest rate. The same arguments bear in as strong a point upon the passenger traffic by these steamers. It cannot be conceived that any passenger would prefer crossing to Ireland by steamer, and thence by rail to whichever port may be chosen on the coast, to embarking at once at Liverpool with all his traps. Should, however, such a person be found, it is quite clear families could not undertake it.

If two parties were to leave London by the same train for these two routes, and the steamer at Liverpool, and the one at her station in Ireland, were both ready to go to sea, on the pas-

* The depth of water in the River Shannon would not allow of vessels drawing 19½ or 20 feet going up to Tarbert Roads at all times of the tide.

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senger stepping on board, the saving in time between London and New York, I conceive, would be *nil*.

Capt. Caffin, R.N.

I look upon this question in a deeply national point of view, and no one can regard the enormous advances which the Americans are making in ocean steam navigation, without feeling that this is a power which they will wield some day to the settlement of questions to their own advantage. The American Royal Mail Steamers are, without exception, the best calculated, in the event of a war, to be turned to account by the Government, and I conceive the removal of the station to any port in Ireland must destroy the efficiency of the Company, for no compensation that the Government could give would make up their loss.

The distance between Liverpool and New York is 3100 miles, and the average outward run is 11 miles an hour, whilst the homeward run is 11¼ miles an hour by these steamers. They carry coals enough for 6000 miles steaming, so that no good could result in the way of saving time by their ships touching at Ireland, but indeed a loss. They steam from Liverpool, deeply laden, to off Cape Clear in 24 hours or less, a less time than the passenger could have performed his journey by the quickest route to any of the Irish western ports; whilst the probable detention from fogs, &c., to the steamer making the western coast of Ireland would render the homeward voyage very irregular.

The above remarks, I conceive, have a double bearing, and are not only applicable to the case, as supposing, viz., the removal of the present establishment from Liverpool to Ireland, but in a greater degree to the establishment of any new Company from Ireland to compete with the existing Companies.

J. CRAWFORD CAFFIN,
Captain R.N.

November 22, 1850.

Captain Hall, R.N.

Capt. Hall, R.N.

Cork can be approached at any time, has a safe anchorage, and all the desired conveniences; but if it is to benefit Ireland, I would strongly recommend Tarbert, in the river Shannon, as a safe and good anchorage. The mouth of the Shannon being about five leagues broad, with regular soundings, the communication by sea is at all times thus rendered comparatively easy.

The soundings extend in that parallel of latitude about 100 miles off—forms a safe direction for making the land. In order to carry on the communication by land, it would only require a railway from Tarbert to Limerick, which, from what I know of the country in that locality, could be formed at a comparatively trifling expense, and the result might be that 20 hours' time would be sufficient to travel from Tarbert to London.

As to commerce, the canal from Limerick to Dublin gives another advantage for this point as well as the various branches from the Shannon. In departing from the Shannon, a steamer would be, as it were, out of the thoroughfare of vessels crossing the Atlantic, which, in foggy weather, is of great consequence.

Galway is totally unfit, in its present state, for the object intended; a heavy sea always sets into the bay with a westerly gale, and the anchorage is bad.

Valentia.—The harbour is too small: the entrance is very narrow, and difficult to make in stormy weather at night.

Berehaven is a splendid harbour, and easy of access.

Long Island.—In the entrance to it there are so many rocks that it must always be dangerous of approach, particularly in thick weather.

Valentia, Berehaven, and Long Island, being surrounded with high rocky land, would most materially interrupt the plan of carrying on the communication by land, either for postal or commercial purposes.

Lieutenant Church, R.N.

Lieut. Church, R.N.

1. I consider that I am capable of giving facts and opinions with respect to all the ports mentioned, except Galway, having been employed in the survey of them since 1841.

2. The advantages of establishing a Transatlantic Packet Station at one of these ports, I conceive to be chiefly in the outward voyage in winter, when adverse winds and heavy head seas are likely to be encountered; the start being made so much in advance of Liverpool; the dangers of so much channel navigation, especially of collision with vessels, being avoided; starting with a lighter trim, in consequence of less coal being necessary; starting with so much of the physical powers of officers and men husbanded; and, immediately on leaving the harbour, having a clear ocean course before them. I consider these advantages to be very great, in the outward passage, in winter; they apply likewise to the homeward voyage, but in a less degree. To the shortening of the sea voyage may be added the gain in time, in receiving and despatching intelligence by electric telegraph.

In a military point of view, also, the rapid transmission of force or intelligence, to and from the south-west coast of Ireland, might be valuable in case of war; and it is not likely that either railroad or telegraph will connect such an important outpost as the south-west coast of Ireland with head quarters during the present generation, unless created and supported by a packet station.

The establishment of a packet station would also, doubtless, prove beneficial in elevating and civilizing the condition (much wanted) of the inhabitants of the south-west of Ireland.

3. The approach, with a powerful steamer, to the south-western coast of Ireland, between

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REPLIES TO QUERIES. (No. 1.)

Lieut. Church, R.N.

Cork and the Shannon, cannot be considered dangerous to mariners well acquainted therewith, as there are but few rocks below the surface of the sea, at any great distance from the land. But it would be a matter worth consideration, whether lights should be placed on the Bull Rock off Dursey Head, and on the Foze Rock, off the Blaskets, abolishing the Skellig lights. The coast is high, bold, and conspicuous with natural objects. Haze I do not consider more frequent than in the English Channel, at any season of the year. The great majority of ships coming home from the west and south-west (transatlantic steamers included) generally sight the land about Cape Clear. The steamers regularly coast along between the Fastnet and the Taskar.

The facility of approach in a steamer, from the offing, towards Cork, Long Island Channel, Berehaven, Valentia, and the Shannon, may be considered nearly equal; and they may be recognised with nearly equal facility, *except Long Island*, which, in its present unmarked condition, is exceedingly blind and indistinct from seaward, there being no beacon or conspicuous object on it, and it does not stand out in relief from the back land. At present there is but the bearing of Leamcon Tower, or Mount Gabriel, to guide a stranger to the entrances of Long Island Channel.

Cork.—With respect to the comparative merits of these harbours to run for, under difficulties of weather, night, &c., I consider that the entrance of Cork is the safest in running for. In fact, there are no circumstances in which it may not be run for, with a powerful steamer, supposing the vessel's position correctly known, and that it is sufficiently clear to see the way a mile in advance.

The Cape Clear light being made (or Fastnet, when exhibited), and subsequently the Old Head of Kinsale light sighted, the course thence to Cork is quite safe, by passing sufficiently distant from the land, to clear Daunt's Rock, off Roberts's Head, having 12 feet water over it at low-water springs, and marked with a buoy.

On coming abreast Roberts's Head, the light on Roche's Point, at the entrance of Cork Harbour, will come into sight, in moderately clear weather, and there is no danger afterwards in boldly running for the harbour.

The Harbour Rock, in the entrance, has a spot with 15 feet at low-water springs upon it, but it is marked with buoys, and there is a broad and deep passage at each side of it.

I do not think that there is any harbour in the kingdom that has a safer entrance. The number of vessels, of every size and draft, that come into Cork for orders (besides those bound to it) is very great, and disaster or damage is of rare occurrence.

Long Island Channel.—The approach from the ocean towards the neighbourhood of Long Island Channel is well marked by the Fastnet Rock (on which the light will be exhibited next summer), by the well-known Mizen Head and Cape Clear; but on coming up with the Fastnet the recognition of Long Island is, as previously mentioned, at present very difficult; as it, and the islets immediately west of it, do not stand out in relief from the back land.

To make it fit for a packet station it would require a conspicuous lighthouse at the eastern end of Long Island; and Goat Island, which divides the west entrance of the Channel into two sounds, should be rendered remarkable by some conspicuous beacon, distinguished in shape from the lighthouse—both coloured white, to show against the backland.

On near approach to Long Island, the fairway is wide and deep, but it is flanked on both sides by islands and islets, which would render a correct knowledge of the locality indispensable.

In moderately clear weather, however, with the required light and beacon mentioned, I consider Long Island Channel a safe place to run for, in any gale, with a good steamer. The passage round the eastern end of the island is much the best for ingress, as the sounds to the westward, formed by Goat Island, are rather too crooked for a long ship; however, they might be used, when considered desirable, on the outward passage.

There is a rock nearly in the fairway of the usual approach from the south-west towards the east point of Long Island. It lies about half a mile south-westward of the point, and is about one-third of a mile off the shore of the island. It is called the Carrig-na-budalough, and has as little as 4 fathoms water over it, at low-water springs. In heavy gales from the south-west it breaks at low water. Under ordinary circumstances it cannot be considered a danger for vessels of 19½ feet draft, but it would be well to give it a berth in bad weather. It should be marked with a buoy, if Long Island Channel were made a packet station.

The depth of water and space to swing at the best anchorages in Long Island Channel are sufficient for the largest steamer; and I may add, that the depth and space in the well-sheltered harbour of Skull, inside Long Island Channel are suited to vessels of 19½ feet draft. The passages from Long Island Channel, into Skull Harbour, at each side of the Bull Rock (half-tide, marked with a perch), are also good. It would be advisable, however, to substitute a small tower, with a harbour-light, upon the Bull Rock.

Dangerous rocky ground extends westward from Castle Island, on the east side of the eastern passage into Long Island Channel; but there is quite sufficient breadth of entrance, nevertheless, clear of it; and the east point of Long Island, being bold-to, it may be passed very close.

The holding-ground is very good, both in Long Island Channel and Skull Harbour, being mud, with a small mixture of shell sand.

I consider the *eastern* passage into Long Island Channel safer, in a heavy gale, than the *western* entrance of Berehaven, and as safe as the eastern one.

Berehaven.—The approach from the ocean, towards Berehaven, is free from anything dangerous, and its neighbourhood is easily recognised, in coming from the westward, by the conspicuous high islets called the Bull, Cow, and Calf, off Dursey Head. Coming from the south-west the Mizen Head, Three Castle Head, and Sheep's Head will come into view; and

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Lieut. Church, R.N.

the point of the Mizen Head, brought in line with the point of Three Castle Head, or a little open of it, will lead up to the west entrance of Berehaven. At night, when steering in a course for the Mizen Head, it might be well to sight the Fastnet light on the starboard bow.

I consider the approach to Berehaven safer from the south-west, than from the west along the Dursey shore.

Until a light or lights are placed at the west entrance of Berehaven, it could not be considered prudent to run in at night for it from the ocean.

The Dublin Ballast Office is now erecting a beacon on Ardnakinna point, at the west end of Bere Island, to distinguish the west entrance of the haven from an opening in the land 1¾ mile west of it, which has been mistaken for it, with bad consequences.

The Harbour Rock, one-third of a mile inside the Narrows of the west entrance, and nearly in the fairway, must be considered a disadvantage. It has 11 feet water over it at low-water springs, and is marked by a buoy on its south-east side; the fairest passage is on the east side of it.

Berehaven is doubtless, a fine, capacious, and safe anchorage, and its west entrance, in daytime and clear weather, is sufficiently safe for a transatlantic steamer; but to run for the said west entrance, at night I consider that moderately fair weather and lights are indispensable. It has been urged, that if the west entrance be considered hazardous, the steamer might be taken round the east end of Bere Island. This alternative can certainly be availed of; but its value is much depreciated by the dangerous group of rocks called the Carrigavaddra, which lie half a mile off its east point; the said east point being, furthermore, low, shelving, and ill defined.

When the mariner runs for the light on the Roancarrig islet (at the east side of the east entrance), it is difficult, at night, to know when to haul round these rocks; for, although a perch has lately been placed on the principal rock of the group, by the Dublin Ballast Office, yet it is very indistinct by day, and quite invisible at night.

To render the passage round these Carrigavaddra rocks *quite* safe at night, a light-ship would be required, moored outside of them; and the light on the Roancarrig might be subsequently abolished. The holding-ground in Berehaven is good, being mud, and a small mixture of shell-sand.

Valentia.—The approach from the ocean towards Valentia, is exceedingly well marked by the high bold rocks called the Skelligs, on the outermost of which (714 feet high) stand two lighthouses, respectively 372 feet and 175 feet above the sea, by Puffin Island and Bray Head. All the passages between the Skelligs, Lemon Rock, and Puffin Island, are free from danger.

On rounding Bray Head, and bringing the openings of Valentia Harbour into view, they are rendered of the most conspicuous and unmistakeable character by Doulus Head, Beginnish Island (marked by a remarkable cone in its centre), and the lighthouse on Cromwell's Fort Point.

The inside of Valentia Harbour, in its various parts, is exceedingly well adapted for steamers of the largest dimensions, and the holding-ground is good—mud and sand. The only point that could be open to difference of opinion is, whether the entrance might be considered quite safe to run for, under every circumstance of night and bad weather. During the five summer months that I was employed about Valentia, in the Admiralty Survey, there was no occasion on which I would have hesitated to take a powerful steamer in or out; but under circumstances of north-west gale, and night, I would prefer more breadth, depth, and freedom from rocky fringes in the entrance; and I can conceive occasions of winter gales from north-west, at night, when it would be prudent to haul off, to await a favourable moment for taking the entrance.

A small harbour-light, placed on the Harbour Rock, and another on the backland of Valentia Island, near the old Glebe-house, to be brought into line, on passing the Narrows, would be useful in taking the entrance at night.

A rock, with 14 feet water at low-water springs, lies inside the entrance, between the Perch Rock and Beginnish Island; it is a little to the eastward of the fairway, and should be buoyed.

Taking into consideration the width of the eastern entrance of Berehaven (more especially if the Carrigavaddra rocks were marked with a light-ship), which can be availed of when considered necessary, I scarcely think that the entry of Valentia can be considered altogether as safe, under circumstances of very bad weather, especially at night; and in case of engines breaking down, or other damage to efficiency, Bantry Bay, in its upper parts, affords safety and refuge, which cannot be said of Dingle Bay.

Tarbert.—The approach to the Shannon is considered good. In coming from the westward and south-westward, the Blasket Islands (especially the Tiraught Rock) and Brandon Mountain (3127 feet high), make an excellent landfall in daytime. A light placed on the Foze Rock, if practicable, would be of great service; if impracticable, it might be placed on the Tiraught, which, in some respects, as regards the approach to the Shannon, might be a more advantageous position; as, kept just open, north of the Northern Blasket, called Innistooskert, it would take a ship clear of the Brandon land, and lead up in the direction of Loop Head Light and the fairway of the Shannon.

On near approach to the entrance of the Shannon, Loop Head, with its light, will be a fine object to run for; and I consider that there are no circumstances of bad weather, after making the light, to prevent a steamer boldly running up the entrance, as the light on Kilcradaan Point will soon come into view. Any danger that exists (Kilsteffeen Bank, 4 fathoms, breaks heavily in winter gales) may be avoided whilst these lights are in sight, by the guidance of

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REPLIES TO QUERIES. (No. 1.)

Lieut. Church, R.N.

the Admiralty chart; and the same may be said of the passage from Kilcradaan Point up to Tarbert Light.

The shoal extending from the south shore, called Beal Bar, has been regarded as a danger, and sailing vessels have been wrecked thereon, but it cannot be considered as lying in the way of a well-conducted steamer; and "the narrows" between Rinana Shoal, off Scattery Island, and Carrig Island Shoal, on the south side, is sufficiently wide for the largest steamer, directed by a light in advance and rear.

The tides run very strong, from outside Kilcradaan Point up to Tarbert, and require study and attention; but with the aid of the lights, Admiralty chart, and local knowledge, the nocturnal approach to Tarbert is, in my estimation, sufficiently safe.

On making Loop Head light, I consider that running for the entrance of the Shannon, in a *heavy winter gale at night*, is a safer undertaking than running for any of the previously-mentioned places, except Cork, because under such circumstances, space of entrance and a straight course are of great value with a towering Atlantic sea following. Immediately on passing the gorge of the Shannon at Kilcradaan Point, very fair anchorage may be had, if necessary, at Carrigaholt.

Not being acquainted with the navigation of Liverpool, I cannot compare these harbours with it; but judging from its features as shown in the chart, and by what experience I have had of St. George's Channel, as compared with the west coast of Ireland, I should say that if the entrance of Liverpool were situated where these western harbours are, that it would be approachable only in the finest possible weather. And I, moreover, consider that any of these harbours, were they in the English Channel, would be considered safe and of great value.

The exit from any of them must be considered always safe with a powerful steamer, in any weather in which headway could be made, if outside.

4. Bound to Cork, the first light to make would, at present, be Cape Clear; but when the Fastnet light is exhibited, it will be the first light to make for; next, the light on Old Head of Kinsale; finally, the light on Roche's Point, east side of entrance of the harbour. There is a light-vessel moored off the point of the Spitbank, inside the harbour; I believe it is in contemplation, at the Dublin Ballast Office, to substitute for it a lighthouse on screw piles.

Bound to Long Island Channel, the first light to make for would be the Fastnet, when exhibited. The light at the entrance of Crookhaven would also come into view on the bearing of north, magnetic, and would from thence be visible up to Long Island.

Bound to Berehaven, there is *no sea light* at present to be sighted, unless it was considered prudent to go somewhat out of the course to sight the Fastnet light, when exhibited. On coming up abreast Sheep's Head, the light on the Roancarrig Islet (east side of east entrance of Berehaven) will come into view.

Bound to Valentia, the Skellig lights would first be sighted, respectively 372 feet and 175 feet above the sea; and after rounding Bray Head and opening the entrance of Valentia, of Reenadrolaun Point, the light at Cromwell's Fort Point, west side of entrance, would come first into view at the bearing of south-east. It is eclipsed in the bearing of north-west, in which direction it leads clear of Reenadrolaun Point; it is visible from that bearing, round the compass, by the eastward; and, after passing into the entrance of the harbour, is eclipsed again in a direction to clear the Harbour Rock (marked with a perch) on its eastern side.

Bound to Tarbert, the first light to make would be Loop Head; next, that in Kilcradaan Point; finally, the light at Tarbert Point. In daylight the Blaskets and Brandon Mountain would first be sighted.

For a Transatlantic steamer, I consider a light on the Foze or Tiraugbt rocks to be indispensable.

5. At Cork Harbour there is no wharf, except that belonging to the Admiralty, at Haulbowline Island, alongside of which a vessel of such draught could lay always afloat. At Passage there are two private wharves, alongside of which a steamer drawing 19½ feet might be afloat at high water about the spring tides, with the bottom of soft mud under her. One of these belongs to Messrs. Brown, forming the outside of their dry dock, 200 feet long, to be lengthened to 300 feet; it is built of timber. At the half-breadth of a large steamer, outside this wharf, there is about 10 feet water at low-water springs. It is liable to be often occupied by vessels under repairs, therefore the charge for wharfage might be high.

The other private wharf belongs to the Cork Steam-Ship Company, built of stone; at half the breadth of a very large steamer outside it, there is 11 or 12 feet water, at low-water springs; but the depth, at its northern end, and the level of the bottom, has suffered lately from rubbish washed from the works of the Cork and Passage Railway, the terminus thereof being at this wharf. At this wharf the steamers of the Cork Steam-Ship Company, from 700 tons to 800 tons, 14 feet draft, and upwards of 200 feet long, sometimes stop on *arrival*, to await sufficient rise of tide in the upper channel towards Cork. I think it possible that a steamer drawing 19½ feet might be afloat, at high-water neaps, alongside this last-mentioned wharf.

These wharves are in a very well-sheltered and safe position, and the anchorage outside them, off the town of Passage, is good for a ship of any magnitude and draft. I must add, however, that the passage of large steamers, from the "Outer roads" of Cork Harbour, up to Passage, is sometimes subject to much embarrassment at *night* from the great number of vessels generally at anchor. Obstruction from this cause is much complained of by the masters of steamers, and they find it necessary often to slacken the speed.

There are no floating-docks in Cork Harbour, and I am not aware that there are any such, or wharves, at present contemplated, that would be likely to afford accommodation to Atlantic steamers.

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There are *no* wharves or docks at any other of the wharves mentioned, alongside of which such a steamer could lie. I am not aware of any being in contemplation.

The pier of Valentia Island is only fit for coasters, and they are a-ground at half tide.

There is a small jetty at Tarbert, but it is fit only for boats.

6. At Cork, during the period that the Admiralty wharf at Haulbowline Island, or the private wharves at Passage, might be occupied, the anchorage outside them is of the best description for a steamer of the greatest size; and the mails, passengers, &c., could be landed or embarked with facility in all weathers.

The anchorage at Long Island Channel, Berehaven, and Valentia is very good and smooth; and mails, passengers, &c., could be landed by boats in all weathers.

At Tarbert, the anchorage is not so good and smooth; and landing by boats, in bad weather, is more difficult than at the other places, owing to the disturbance caused by the strength of the tides.

At Long Island Channel, although it is possible to land by boats in all weathers on the rocks, yet there is nothing *whatever, at present*, in the shape of a jetty or landing-place; not even a cleared or level space through the rocks, down to low-water mark; therefore walking over them is very difficult. But in the north-west corner of Skull Harbour a pier has recently been built by the Board of Works, extending outside low-water mark of spring-tides, at which boats and small craft could land mails, passengers, and light cargo in all weathers.

7. At Cork Harbour, *all* repairs could be had at present to steamers up to 13 feet *light* draft, of either wood or iron; but it would be difficult to administer repairs to the bottom of a vessel that could not be lightened to 13 feet draft, as there is no dry dock at present sufficiently large or deep to admit her, and the greatest rise of spring tides above the average low-water level is not more than 13 feet.

The present dimensions of Messrs. Brown's dry dock at Passage, are 246 feet long, 38 feet width of gate, and capable of floating in a vessel of 13 feet draft at high water of ordinary springs. I understand that it is the intention of Messrs. Brown to extend the dimensions of the dock to 336 feet in length, giving a width of dock-gate of 65 feet, and sufficient depth to carry 18 feet water over the blocks at high water of ordinary spring tides.

They consider that this enlargement may be completed by the end of next summer; but that I consider doubtful. The professed object of this enlargement is said to be to enable them to take in any of the large Atlantic steamers that might hereafter be obliged to put into Cork for repairs.

All repairs to boilers or machinery could be performed by parties at Cork, at, I believe, as low prices as in the Clyde, at Liverpool, or London. An iron screw steamer of about 800 tons ("Pelican") was last year launched at Cork; all her parts—boilers, machinery, &c., were made on the spot; she has been well reported of since.

Supplies of all kinds can be had at Cork, Passage, or Queenstown. A limited amount of storage at the two latter places; plenty at Cork. Sufficient accommodation of every kind for passengers.

The steamer might take coal in alongside the wharf at Haulbowline, if permitted by the Admiralty; or she might take coal in alongside the Cork Company's wharf at Passage, if it were allowable to take the ground, being waterborne 11 feet or 12 feet; or from colliers brought alongside, whilst at anchor.

At *none* of the other harbours could repairs be had for boilers or machinery; nor could shipwrights' repairs be had, except in the Shannon, and in a very small degree, at Berehaven.

At present there is no storage accommodation to be had at Long Island Channel, Berehaven or Valentia; but there are corn-stores of large size at Tarbert, the owners of which might probably be glad to turn them to profitable account.

Supplies of all kinds of fresh provision—bread, vegetables, &c., could be had at *all* the western ports, except wine and groceries, in large quantities; which, however, could be readily supplied by parties at Cork, at but little expense of carriage.

Water in large quantity is not readily or quickly obtained at Valentia or Tarbert, nor at Long Island Channel, but it is easily procured at the north-east part of Skull Harbour; and watering is not difficult at Berehaven.

A *small* amount of accommodation could be had for passengers at Skull; *none* at Long Island Channel; accommodation for a considerable number at Berehaven; for a few at Valentia; for a good number at Tarbert. Plenty of accommodation would soon be created at any of these places, if there was a regular demand for it.

The coaling at *all* these western ports would probably be best done alongside a bulk kept moored for the purpose.

8. At Cork, the price of coal adapted for steaming is now about 15*s.* per ton. The Cork Steam-Ship Company now pay that price to a contractor for Newport coals; but I must add that the cost of labour, unloading and loading, together with dues, makes it stand about 16*s.* 6*d.* per ton delivered on board.

There are parties at Bantry who would now contract to supply the best Newport coals at Berehaven, at 16*s.* per ton; and, if very large quantities were required, perhaps a shilling less. Unloading and loading would raise the price again, but not so much as at Cork, as labour in the west is very cheap, and there are *no* dues.

There is no coal used at present at Long Island Channel or Skull. Turf is the fuel used, but I have no doubt there would be no want of contractors to supply coal at Long Island, at as low a price as at Berehaven.

At Valentia, turf is the general fuel used; but there are occasional cargoes of coal brought for the use of the steam-engines belonging to the slate quarries, by vessels that take the manu-

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REPLIES TO QUERIES. (No. 1.)

Lieut. Church, R.N.

factured slabs to England. The coal freights from Cardiff to Valentia have been, for the last four years, 6*s.* per ton. At Cardiff, the price of the best steaming coal (Duffey) is 9*s.* per ton, which makes it stand 15*s.* at Valentia, independent of labour there.

There is but little Welsh coal brought to the Shannon; Scotch coal is chiefly used; they, prefer that from Troon, which is used in the steamers that ply on the Shannon. I am told that the average price of Scotch coal through the year, in the Shannon, is about 13*s.* to 14*s.* per ton.

The freights of coal from the Welsh ports to the south-west coast of Ireland are generally 2*s.* per ton higher in winter than summer.

The greater number of vessels that bring coal from Wales to the south-west ports of Ireland, go back in ballast; some few get outward cargoes of grain, or used formerly to get them, before the failure of the potato. I cannot say what difference of price of coal might be, "should the supply required for a packet station greatly exceed the back freight," but I consider that from 15*s.* to 16*s.* per ton may be calculated as the general average price of good steaming coal, at all the ports of the south-west of Ireland.

9. Between Cork and Dublin the railway is now working; there is but a very short portion unfinished of the line, near the Cork terminus. The Cork and Bandon railway will soon be complete. There is extensive communication by carriers, several times a-week, with the principal towns of the county of Cork, also with Limerick and Waterford. Besides the mail and day coaches to the various towns, there is much passenger traffic by Bianconi's cars.

The communication by Cork and Passage Railway. Railway to Dublin and Bandon, for mails, passengers, goods, &c., in rapidity, security from loss or injury, and in expense, is said to be on an equality with the English lines.

There are *no* manufacturing districts, at least none worthy of the name, in the south of Ireland; but flax mills are now in course of erection, on a large scale, near Cork.

The present intercourse inland from Long Island Channel, or rather Skull, is but a daily mail car to Skibbereen, and the carriage of agricultural produce in a primitive manner. The people interested in the Cork and Bandon Railway have of late been discussing the subject of extending the line from Bandon, westward. The most favourable line of country for it is along the course of the Bandon river, and from thence in a direction towards the head of Dunmanus Bay. From a few miles eastward of the head of Dunmanus Bay, they talk of the possibility of extending the line to any port that might be selected for a packet station in the county of Cork. In the present condition of the country, without a packet station, there is little chance of such a work being done by private enterprise; it would *not* pay. From Long Island Channel, or Skull, there would be some engineering difficulties in carrying a line of railroad round Mount Gabriel, &c., towards the head of Dunmanus Bay.

From Berehaven, the communication with the interior is confined to the daily mail on *horseback*, to and from Bantry, and the carriage of butter, &c., in carts to Cork.

The people who talk of a railway to Berehaven suppose it to join the proposed extension of the Bandon line, a few miles inland from the head of Dunmanus Bay. Some proprietors of the land along this line propose to give it, free of cost.

The line of country everywhere eastward of Berehaven, round the head of Bantry Bay, and towards the proposed extension of the Bandon line, appears to be of a very formidable character to run a rail through, being mountainous and rugged; and the bights of Adrigole, Glengariff, &c., run deep into the mountains from Bantry Bay.

The communication and intercourse with the interior from Valentia is at present much the same as at Berehaven. There is, however, a little more commerce, caused by the slate quarry establishment of Valentia, which employs about 300 men.

There are at present no means of travelling from Valentia towards the interior, except the mail or hired car. The country through which the talked-of line of rail would run, in case of getting a packet station, appears mountainous and difficult.

From Tarbert there is a tolerably level line of road to Limerick. Mail and passenger cars travel along the said road daily.

Pilots.—There are 118 authorized "Branch Pilots" for Cork, of these 21 belong to Kinsale. There are seven or eight fast pilot cutters, of from 40 to 70 tons, belonging to parties at Queenstown, which are manned by the branch pilots. Some of these cutters are always hovering in the offing, between Cape Clear and the Old Head of Kinsale. These pilots are considered skilful, but have little experience in the manœuvring of steamers.

There are four pilot-hookers, and many whaleboats belonging to Crookhaven, the fishermen of which place are all pilots (but have no authority) from Crookhaven and Long Island Channel. They are hardy men, and some of them are tolerably skilful, and are always on the look-out from Brow Head, for vessels making the land between the Mizen Head and Cape Clear. The hookers often cruise at the distance of seven or eight leagues west-south-west of the Mizen Head.

At Berehaven there are no professed pilots; but several fishing hookers belong to the place, and are often to be met outside, southward of Blackhull Head. The men are good pilots for Berehaven.

At Valentia, the population employ themselves very little in fishing, and it is rare to meet them outside. At Portmagee (west end of Valentia), there are some fishing-boats and canoes to be met with outside occasionally, but at no great distance from the land. There are a few men who profess to be pilots, dwelling on the island of Beginnish, at east side of Valentia entrance. The principal man is named Connell; knows the place well enough, and is accustomed to take vessels in and out, but cannot be expected to understand the manœuvring of a large steamer. They keep a look-out from the land for the approach of vessels.

There are many pilots belonging to the Shannon, but they are chiefly to be found between

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Replies to Queries. (No. 1.)

Lieut. Church, R.N.

Tarbert and Limerick. There are, however, some "Western pilots," who live at Kilbaha, about three miles east of Loop Head, inside the mouth of the Shannon. They keep a look-out for vessels that make signal for pilot, and rise *canoes* made of canvas stretched over a frame-work of ash, and will launch and go to sea in weather in which no ordinary boat of wood could live.

Dunmanus Bay.—The facility of approach from the offing towards the bay of Dunmanus is as free from danger as the approach towards any of the previously-mentioned places. A course being steered in for the Mizen Head, in moderately clear weather, the Fastnet light might be sighted on the starboard bow. But I think it would be found necessary, in case of this place being adopted for a packet station, that a sea-light should be placed on Three Castle Head. A light-ship moored off the extremity of the sunken rocks which extend to the distance of three cables' length west-north-west from Carherry Island; and a small harbour-light on Mannion Island, on the north side of Dunbeacon Harbour, at head of the bay.

With such lights I consider that a steamer, conducted by a person with a correct knowledge of it, might, under all circumstances, run up Dunmanus Bay, to Dunbeacon Harbour at its head.

The land about the Mizen Head is very remarkable, and, being once seen, easily recollected again. Likewise Three Castle Head, and Sheep Head, forming the entrance of Dunmanus Bay.

The Mizen Head, with its signal-tower, and a little inland of said tower, the well known Mizen Peak, 760 feet high; Three Castle Head, 370 feet high, also remarkable from the westward by the three small ruined castles of Dunlough, in a hollow near its summit; and Sheep Head, a sharp, well-defined sloping point, rising to the height of 790 feet, and crowned also by a signal tower, are good objects to look out for, as, coming in from the southward, they stand out in bold relief from each other, and from the backland of Bantry Bay, remarkable also by the flattish-topped mountain called Hungry Hill, 2250 feet high.

Westward from Three Castle Head, at the distance of four cables' length, is a rock with 16 feet water; and westward from Sheep Head, one and a half cable length, lies a rock with 21 feet at low-water springs, both of which break in very bad weather. These rocks cannot be considered as rendering the entrance of Dunmanus Bay dangerous, as there is no necessity to approach these heads too close, the breadth of the entrance between Three Castle Head and Sheep Head being three miles, with a regular depth of 32 fathoms.

Midway into the entrance of this bay a steamer might be boldly run in all weathers, in which the land could be distinguished at the distance of a couple of miles; and likewise boldly run up it, keeping rather along the northern shore.

On getting sight of Carbary Island (seven sea miles inside the entrance, and 58 feet high), by day, or the light-ship (which ought to be moored off the breaker thereof) by night, a course steered *midway* between Carbery Island and the northern shore (on which stands a modern turret, built by Lord Bandon) will be perfectly safe for a steamer in any weather, the passage there being nearly a mile wide, with a depth of 18 and 19 fathoms.

On passing Carbery Island the ocean sea will rapidly decrease, and by continuing on the same course, and bringing Three Castle Head in *one* with the northern extreme of Carbery Island, these unmistakeable objects, kept thus in line, will take the vessel in the middle of the fairway, between two sunk rocky patches, three miles and a half above Carbery Island, and abreast the old square castle of Dunbeacon on the southern shore. These patches lie at about one-third the apparent breadth of the bay in this part, from each shore, and the fairway lies between them, being about three cables' length wide, with a depth of 9½ fathoms and 10 fathoms. On the southern patch is 14 feet, and on the northern 6 feet water, at low-water springs; they ought to be buoyed. The old castle of Dunbeacon (on south shore), in line with the ragged part of Mount Gabriel, is a cross-mark for both. At night the proposed light on Three Castle Head, kept a little to the left of proposed light-ship off Carbery Island, would lead in the fairway between them.

On passing these patches, a slight alteration of the course will direct the vessel's head towards Dunbeacon Harbour, at the head of the bay.

The entrance of this little harbour of Dunbeacon is about one and a half cable wide, with a depth of 6 fathoms.

At the anchorage there is a clear space of about one cable in length, north and south; and two cables east and west, with more than 20 feet water at low-water springs; good muddy bottom, where a steamer drawing 19½ feet might be always afloat, if riding at moorings.

This little harbour is much narrowed on the south side by "Murphy's Rocks," awash at low-water springs. They might, however, be turned to account, as the foundation of a pier, having deep water (16 feet and 17 feet) on their harbour side. If the place were much frequented, and no pier built on these rocks, it would be necessary to mark them with a perch, as well as another rock in the north-eastern part of the harbour called Carrigaroanty.

In this little harbour of Dunbeacon a vessel will be in smoothness and security in any gale from the westward. I have been riding there in very heavy gales, in a small cutter, and found it quite secure. The only wind in which the anchor started was in heavy gales from south-east, coming in violent gusts over Mount Corrin, which overlooks the harbour.

There is no wharf at which a vessel of any kind could lie, at Dunbeacon; but landing, with boats, can always be made in the worst weather.

No means of repairs, of any kind, could be had at the place.

At present, supplies of all kinds are scanty; but plenty could be had from the town of Bantry, six miles distant overland. There is no accommodation whatever for passengers.

A little storage might be had at the north-east side of the harbour. Watering is easy.

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REPLIES TO QUERIES. (No. 1.)

Lieut. Church, R.N.

Coal might be supplied by contract, I should think, at about the same price as at Berehaven, viz., 16*s.* per ton. There is no coal used at the place at present.

At present there is but little intercourse with the interior. No post-office nearer than Bantry.

A few of the Crookhaven pilots have a knowledge of Dunmanus Bay, but not very much to be trusted to. I consider, however, that a stranger could take *a steamer* up the bay into safety at Dunheacon, under the guidance of the Admiralty chart, when published.

The chief advantages of Dunbeacon harbour, as a packet station, would consist in the facility and safety of entrance of Dunmanus Bay (with a steamer) in all weathers in which the land could be discerned at the distance of a couple of miles; and in the safety of running (with a steamer) up or down it. And also, that the line of country between Dunheacon and Bandon is more favourable for making a railway, than the country inland of Long Island Channel, Berehaven, or Valentia.

The disadvantages I consider to be, that if Dunheacon were made a packet station, that sailing vessels would have to resort to it; and that the difficulty of beating against adverse winds, up or down the bay of Dunmanus, is exceedingly great, especially with square-rigged vessels; and furthermore, that *outside* the rocky patches previously described as lying at each side of the bay, abreast of Dunheacon Castle, the water is too deep for convenient anchorage for merchant vessels; and in winter time there is not *complete* security in coming to an anchor in the bay in all winds from the westward; so that sailing vessels, if obliged to anchor, might be forced to slip their cable and run back to Dunheacon for security. I have known a square-rigged vessel make three attempts to beat from Dunbeacon to sea before she succeeded. On two occasions, getting under way early in the morning, night came on with bad weather before she could clear the heads, and was forced to run back to Dunbeacon for security.

The *inland* position of Dunheacon may probably also be considered a disadvantage, in a place likely to become a naval and military station; and, in capacity of size and depth, it cannot be regarded as worthy of equal estimation with the other western ports, as the site of a great establishment.

Lieut. R. W. Rish, R.N.

Lieutenant R. W. Rish, R.N.

1. Cork,	Valentia,
Long Island (near Cape Clear),	Tarbert (River Shannon),
Berehaven (Bantry Bay),	Galway.

Cork.—The advantages are, in my opinion, in favour of the first-named port, on the following grounds:—

1st. It can be entered in all weathers, at all times, day or night, and is easy of access.

2nd. The soundings on the south coast of Ireland can be more depended on for confirming your reckoning, should weather or unforeseen circumstances place you in doubt of your position.

3rd. Should you be in doubt of your position, to attempt to run for any port on the west coast of Ireland would be attended with the most imminent risk in the prevailing westerly gales in the winter season on such an iron-bound coast.

4th. No weather that Cork is subjected to would prevent the mails being landed by day or night.

5. In Queenstown Harbour and Passage, wharves are capable of being constructed to allow vessels of any draught of water to lay alongside at all times of tide.

6th. The city of Cork has several foundries for repair of engines, boilers, besides the Government factory at Haulbowline, Queenstown, which might be made available in cases of necessity. There are slips and building yards on the banks of the Lee, and one patent slip, capable of hauling up a vessel of large tonnage.

7th. There are railroads from Passage to Cork, and from thence to Dublin direct.

8th. I do no think the freight of coals would be materially altered, or that it would much exceed the back freight, which may reasonably be expected to increase from the average of late years, the average price of coals there at present being 18*s.* a ton.

Long Island.—A place only to be run for, in my humble opinion, in fine clear weather, and not at all adapted in any respect as a packet station.

Berehaven (*Bantry Bay*).—The advantages of this port are, it is a most capacious and excellent harbour with good holding ground.

2nd. Mails and passengers could in all weathers be landed day or night.

3rd. Although easy of access, when the exact position of the ship is known, still, should circumstances prevent your obtaining that, it would be highly dangerous to run for Berehaven in a heavy gale in thick weather.

4th. At present there are neither railroads, docks, wharves, or any means to expedite the conveyance of mails, passengers, and goods from that port to the capital.

5th. There are no means of any kind for the repairs or maintenance of the packets and their engines, boilers, and machinery in general.

6th. Coal is, I believe, difficult to be obtained, as all that is imported is for the working of the copper mines in the neighbourhood.

Valentia.—The advantages of this port are, that it is a most secure harbour when in, and the mails could be landed at all times.

2nd. In strong gales from the westward there is such a sea thrown into the bay, that the

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narrow entrance of the harbour of Valentia is a perfect mass of breakers from one point to the other, which renders vessels quite unmanageable, and has been the loss of several with the whole of their crews. In entering with an ebb tide, you are placed in great danger of going on the rocks, from the tide catching the vessel on either bow. Replies to Queries. (No. 1.) *Lieut. R. W. Risk, R.N.*

3rd. The difficulty of entering at night is also much increased by the position of the light-house, which, from its close proximity to the vessel when passing, totally blinds all on deck, and in the most critical period of the passage.

4th. Should you miss the port, it would be at great risk of the machinery to attempt to get out of the bay with the mountainous seas that roll into it, and should the machinery fail, total loss of the vessel would be inevitable, as the bay to the eastward affords no other shelter.

5th. The back freight is so small from the neighbourhood of Cahirciveen, Dingle, and Valentia, that the freightage of coals would be much greater than at Cork.

6th. There are no conveniences at this port for repairs and maintenance of packets, and their engines, boilers, and machinery in general.

7th. Little or no coals can be obtained at any price.

8th. There are no docks or railroads at or near Valentia.

Tarbert (Shannon).—The advantage that this port has over any other on the west coast is, that from the formation of the isthmus it afford capabilities of making wet and dry docks, with piers capable of admitting any size steamers at all times and tides.

2nd. Should you by any unforeseen circumstances not make the entrance of the Shannon in westerly gales, you would not be placed in the extreme danger subjected to in making Valentia; but still it is open to the same objections as before stated, viz., the risk attending any vessel running so confidently for such a coast as the *west* of Ireland, as would be necessary to ensure the punctuality that would be expected, and is now accomplished by the Liverpool and South of England packets.

3rd. Coals, at present, are difficult to be procured, except from Limerick. As regards the back freight, it would depend so much on the renewal of the Limerick exports, which have been so much influenced by the potato disease of late years that I could not give any opinion.

4th. From the great strength of tide which runs during the springs (7 knots) and with a heavy gale, you could not ensure the landing or receiving of the mails at all times.

5th. At present there is no direct communication with the capital (Dublin) nearer than Limerick.

6th. There are no conveniencies at this port at present for the means of repairs and maintenance of the packets, boilers, engines, and machinery in general.

Galway.—There is less danger in running for that bay from an Atlantic voyage than any other port on the *west* coast of Ireland.

2nd. The sheltered part of the roadstead is small, but good holding ground.

3rd. The mails could not be landed in all weathers without risk.

4th. There is a fine wet dock and pier, neither of which are accessible except at high water, and the former, from its narrow entrance, will not admit the description of vessels spoken of as transatlantic packets.

5th. At present there are, I believe, no foundries capable of repairing boilers and the machinery of the packets.

6th. Coals are to be procured, but at present at high prices, and I could give no competent opinion as regards the back freight on the probable price of coals.

7th. As regards the communication by rail with the capital, I believe it will at no distant period be complete.

I have endeavoured as far as in my humble power to answer the queries put to me by your Circular of the 11th November, and can assure your Lordship, for the information of the Transatlantic Packet Station Commissioners, that having seen a great deal of the southern and western coast of Ireland, I shall always feel happy and proud as far as it is in my power to answer any further queries that the Commissioners might think proper to put to me.

Lieutenant E. E. Turnour, R.N. *Lieut. E. E. Turnour, R.N.*

1. Cork.

2. The advantages I conceive of establishing a Transatlantic Packet Station in Cork Harbour would be—First, that it is a harbour which can be made and entered at any time of tide, and in any weather, day or night. Secondly, passengers and mails could be landed or embarked at all times of tide and in any weather.

3. Vessels bound up the St. George's Channel from the American continent usually make Cape Clear as their first landfall; and the distance from thence to Cork Harbour, in comparison to proceeding on to Liverpool, would be a great saving; besides the facility of making and entering the former in any weather when land could be approached with safety, having the fine light on the Old Head of Kinsale, and Roche's Light at the entrance of the harbour, as guides. Fogs are not so prevalent either, on the west coast of Ireland, as they are on the English coast, as far as I have experienced; and Cork Harbour could be entered at any time of tide, and in any weather, when the banks off Liverpool could not be approached. The only danger from Cape Clear to Roche's Light is the Damot Rock, which has a buoy near it, and is situate about 4½ miles from Roche's Point, and three-quarters of a mile from Robert Head. The channel, up to the anchorage off Queenstown, from Roche's Light, is marked by buoys on either side, besides a light-vessel moored off the Spit, off Spike Island.

4. Cape Clear. The light on which it is intended shall be removed to the Fastnet Rock, situate about 5 miles W. ¼ S. from the Cape, and will be a far better position for it, not being so liable to be affected by haze.

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Replies to Queries (No. 1.)

Lieut. E. E. Turnour, R.N.

5. At Queenstown, Cork Harbour, I conceive a pier might be run out a short distance, and vessels of 19½ feet draught could lay alongside afloat at low-water spring tides, and land or embark mails, passengers, and goods, and in any weather. Passage, Cork Harbour, has equal facilities for being made a packet station, as vessels of 19½ feet and upwards draught can go up at all times of tide to Passage, off which is very deep water; and it has this advantage over Queenstown, that there is never any swell off Passage, when, with a south-east or southerly gale, and an ebb tide, there would be a bubble off Queenstown. There is a dock at Passage, but not calculated for very large packets, but docks could be constructed; and there is a railroad to Cork from thence, and another from Cork to Dublin, &c.

6. The anchorage is excellent off Queenstown, and a landing-pier is only required to be made to enable mails and passengers to be landed and embarked; at present boats cannot, in all weathers, land or communicate with the shipping. At Passage the anchorage is good, and no difficulty to be apprehended in landing or embarking mails and passengers at any time.

7. I do not know where the repairs and maintenance of packets, their engines, boilers, &c., could be made good at Queenstown, unless an arrangement was made with the Government Dockyard at Haulbowline.

I do not know what storehouses, or accommodation for passengers, could be found either at Queenstown or Passage, at present; but I should imagine, wherever the packet station is established, these matters would soon be satisfactorily arranged. Coal-stores, in like manner, could be made; and if a pier was constructed for the packet to lay alongside, the coals could of course easily be brought to the vessel.

8. This is a question upon which I cannot give an opinion.

9. There is a railroad from Passage to Cork, and railroads from thence to Dublin, Limerick, Waterford, Belfast, and one nearly completed to Galway, and others projected. There are packets from Cork to Dublin, Bristol, and London, and from Dublin to Holyhead, &c.; and I should imagine arrangements might be made so as to ensure the transmission of mails, passengers, and goods, with safety and rapidity, from Cork to any part of the United Kingdom. As regards the expense, I am quite unable to form any estimate.

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1. Tarbert.

2. I do not know what advantages could be derived by establishing a Transatlantic Packet Station at Tarbert, to counterbalance the disadvantages at present existing, viz., strong tides, bad anchorage, and great difficulty of landing or embarking mails, passengers, and goods, at all times and in all weathers.

3. There is no difficulty in reaching Tarbert Roads, after having made the Loop, and much less, I should imagine, than making Liverpool, and the water is deep all the way from Loop Head to Tarbert; care being taken to avoid Beal Land and the Stailroad Land, after passing Kileradan Head.

4. The Skellig Lights, and then Loop Head.

5. At present there is a small pier erected for the river boats to land and embark their passengers and goods; but at certain periods of tide and weather, these have to be warped out in a lighter some distance from the pier, to enable the steam-boat to embark them. I should think, unless a floating dock or a long pier could be constructed from where the present pier is towards the S.E., so as to enable a packet at all times to lay alongside afloat, that neither mails, passengers, goods, or coals could be landed or embarked with safety and certainty at all times; indeed, I know it would be impracticable at certain periods of tide and in rough weather. Inside the Island of Foynes, I should imagine it would be far easier to construct a landing place and dock. The water is deep there; never affected by any winds. Entrance, though narrow, being easy. A light would be necessary at nighttime.

6. I do not consider the anchorage good, neither could mails, passengers, or goods be landed conveniently, or embarked at all times.

7. There are none at present, but no more difficulty in erecting all these necessary buildings, &c., at Tarbert, than at any other port.

8. I never purchased coals at Tarbert, and cannot give an opinion upon this subject.

9. At present, the only mode of communicating with the interior, is by the river boats to Limerick, every other day in winter and once a day in summer, and there is a mail car. I know not if any railroad is in contemplation, but I believe, at Foynes, it was once in contemplation to construct a railroad, so as to communicate with all parts of Ireland.

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1. Galway.

2. The advantages of establishing a Transatlantic Packet Station at Galway would be,—First, a great saving of time in the transmission of mails and passengers, as the voyage would be considerably lessened. Secondly, it is a port which can be made at any season, night or day, neither tides nor weather causing any hindrance.

3. It would be as easy for a vessel to make the Skellig Lights, or the Loop Head Light, as Cape Clear, the Lizard, or any other light, and the coast is quite bold all the way from the Blaskets to the Arran Isles, and so up Galway Bay to the anchorage. There is a light on Arran Island, which I believe it is in contemplation to remove to a better situation, and there is another light on Mutton Island which points out the anchorage. Should a vessel be driven too far to the northward to make the Skellig Lights, there would be Loop Head Light and Slyne Head Lights, which latter could not be mistaken for any other. The dangers in approaching the anchorage at the head of the bay are the Marquinta Rock, which has a

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Lieut. E. E. Turnour, R.N.

buoy on it, and a rock on the port hand, which has a perch upon it. But the bearings of the light on Mutton Island will take a vessel clear of either, and I have run up in all kinds of weather, day and night, by it, and my lead.

4. The Skellig Lights.

5. A vessel of 19½ feet draught, would have to anchor in Galway Roads, although there is a floating dock and another in course of construction; yet, not even at high-water spring tides could a vessel of such a draught approach within a quarter of a mile of the docks. Neither could mails, passengers, or goods be at all times landed or embarked from the Roads. I have often been prevented by the wind and sea, for upwards of 24 hours, from communicating with the shore, and could only then during a lull, at low water, when shelter was afforded my boats by the uncovering of the rocks off Mutton Island; even at low-water spring tides, neither goods nor passengers could at present be landed, either with rapidity or convenience, though the weather be fine.

To make Galway a Transatlantic Packet Station, so that mails, passengers, and goods could at all times and in all weathers be landed or embarked, Mutton Island should be connected by a causeway with the main land, and a breakwater constructed from the south end, of at least a quarter of a mile in length, and of a semicircular form, so as to effectually afford shelter to boats communicating with the shipping and Mutton Island in all weathers. A pier should also be run out from the island on the eastern side, alongside of which the packet could land or embark her goods and passengers, and could coal; having a tram road from thence along the causeway to the town and railway, to facilitate the transmission of mails, passengers, goods, and coals.

6. This question is answered in No. 5, with the exception of the nature of the anchorage. The holding ground is most excellent, and notwithstanding the heavy swell which sets in towards high water in south-west and north-westerly gales, no vessel with good ground tackle and proper precautions ought ever to drive.

7. If, as I have proposed in No. 5, a causeway be constructed, so as to connect Mutton Island with the main, and a breakwater and pier made, the great obstacles at present existing in the landing and shipping of goods would be removed, and then storehouses might be built, and a factory established for the maintenance and repairs of the packets, engines, boilers, &c.

8. Upon this query I cannot form any estimate.

9. There is a railroad in course of construction, communicating with Limerick, Dublin, Cork, and Belfast and other towns; and I imagine mails, passengers, and goods would be transported from one end of the United Kingdom to the other, with safety and rapidity, but I cannot form any estimate as to the expense.

Captain Sir Robert Hagan, R.N.

Capt. Sir R. Hagan, R.N.

1. I can conscientiously, and do very confidently, give my opinion of the complete fitness of Cork for a packet station, and of the utter unfitness of the others.

2. The advantages of Cork over all the ports named, and over Liverpool, are very numerous; first, the approach to it is perfectly safe in all weathers and at all times, and a ship goes at once from the open sea into a fine harbour, irrespective of tides, weather, and pilots; no banks to fear, no light-ships to look for, no tenders required to embark and disembark passengers; in short, none of the combinations required elsewhere. Second, its proximity to two excellent land-falls, universally known, with a bold and safe coast intervening; but this having been very fully dwelt on in my former report, I consider it only necessary to add, that the combined advantages of Cork over all Irish competitors, as well as over Liverpool, leave me at a loss to understand upon what arguments the opposition to Cork is grounded, and why the establishment of a packet station has been delayed so long.

3. By adopting the very simple directions contained in my former report, namely, approaching the coast in the parallel of about 51°, and making the Cape, if not very thick, or the Old Head, if very thick weather, all danger, if bound to Cork, is avoided, because the coast east of those land-falls is bold, and therefore safe to approach; besides the prevailing winds blow along shore, or with a little bold of the land, a vessel in the thickest weather may, therefore, grope her way into harbour. The dangers of the Irish channel and the approach to Liverpool are too well known to require any observation from me; as to the coast, from the Cape to the Blaskets, it is notoriously wild, whilst strong tides and thick weather render it a dangerous one; the tides or currents are not so strong, I believe, N.W. of the Blaskets, but then you are on a more decided lee-shore. The advantage of Cork over the ports in the English channel is in its western position, as well as in the superiority of its land-falls, as compared with the Lizard, Land's End, Usbant, &c.

4. Cape Clear, or the Old Head of Kinsale, according to the weather and state of the atmosphere; these are well known as good land-falls, and have been used as such by vessels bound up the Irish channel and to the south coast of Ireland for centuries. Good lights are placed on these, also well known to every seaman.

5. I assume that the mails and passengers would be landed at Queenstown, where there is already ample accommodation for that purpose; but ample as it is, I understand the Harbour Commissioners are about to erect a timber jetty, alongside of which a vessel drawing 25 feet water will be able to go, in all weathers and at all times of tide, for goods. *See* answer to 7th query.

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Replies to Queries. (No. 1.)

Capt. Sir R. Hagan, R.N.

6. It will be very rare indeed that the landing places referred to, in answer to the 5th query, cannot be used; but should a case arise of not being able to do so, the mails and passengers could be immediatly landed or embarked by boats or river steamers, which are numerous. The anchorage is excellent; a ship may ride within a stone's throw of the shore.

7. Cork affords two docks for the repair of vessels; one at Passage, two miles above Queenstown, and the other at Cork; there are also patent slips at Cork, and a building yard for the construction of iron steamers, including their boilers, engines, &c.; it of course affords ample means, therefore, for repairing them. Goods may be stored at Queenstown, and forwarded by steam to London, Liverpool, Bristol, Falmouth, Plymouth, or Portsmouth, or to Dublin, Waterford, Belfast, or Glasgow. Goods may also be stored at the stores of the Great Southern Railway, near Cork, about to be erected, and forwarded by them to all parts of Ireland. Cork and Queenstown afford ample accommodation for the number of passengers usually travelling by the Halifax boats. Should this number very much increase, from the route becoming a favourite one, which I anticipate, more might be required at Queenstown, but this would not be long wanting. Coal may be stored at Queenstown, or in a floating depôt, which might be moored off Haulbowline or other convenient spots.

8. The price of the best steam coal, delivered alongside Her Majesty's ships, varies from 14*s.* to 15*s.* 6*d.* I do not think this price likely to be increased by the demand referred to, nor do I believe that the price is now or ever likely to be regulated by the back freight, because grain is not sent to the coal ports.

9. The railway of that enterprising company, known as the Great Southern, being now nearly complete, affords accommodation for goods and passengers to Dublin, Limerick, and Waterford, and intermediate places, inferior to no similar establishment in the United Kingdom. They are about to erect stores, and have applied to Parliament to form a basin at their Cork terminus, so that vessels may discharge their cargoes in the quickest and safest manner. I consider this a matter of such importance, that I hope no obstacle will prevent its full accomplishment.

Having thus, my Lord, replied to the several queries, *seriatim*, as fully and as clearly as my humble abilities enable me to do, I might here close my report; but as I have glanced only at the other ports, I think it necessary to call the attention of your Lordship and the Committee to the slender means possessed by them for receiving, repairing, and refitting vessels, to the want of railway accommodation to some of them, and to the great expense of conveying coal to any of the ports west or north of Cape Clear; five of the places named scarcely possess the means of refitting a coaster, and Galway and the Shannon, unless very much improved since 1843, cannot be much in advance, for the 80 ton revenue-cutter stationed at the former was generally sent to me for refit every year, whilst the 60 ton one at the latter was also sent to Cork or Dublin occasionally. I conclude, therefore, that no port save Cork possesses at present the means of refitting or repairing steamers, even supposing it to be advisable to attempt running them from any one of them; but I feel satisfied, that the Commissioners never can give their sanction to such a proposition. It would be tantamount to setting the elements and facts at defiance; it would be a risk of life totally unpardonable, and a waste of public money totally indefensible; I say waste, for it is not to be supposed that a contract could be made from any of the ports on such favourable terms as from Cork. If I have written too earnestly, or too confidently advocated the cause of Cork, or have written less respectfully than I meant, I beg to apologize to your Lordship and the Committee, and to beg you and them to believe that it arose only from an over anxiety to perform an act of humanity and public duty, and not from any personal motive, for in truth, I have none, it being perfectly indifferent to me whether the blind harbour of Valentia or the noble one of Cork be chosen.

I have, &c.,
R. Hagan, *Capt. R.N.*

Right Honourable Lord Hobart, &c. &c.

Inspecting Commander B. Quadling.

Inspecting Commander B. Quadling (Coast Guard Service).

1. Valentia.

2. The advantages for adopting Valentia as a packet station are, its being the most western port of Europe, and nearest to America, having a harbour with two entrances, the western entrance being accessible at all times, but would require to be lighted. The harbour is seven miles in length, half a mile wide at low water; has excellent holding ground; is completely land-locked; is far to windward, the westerly winds being the prevailing ones; has the advantage over a channel port in causing a great saving in the wear and tear of vessels and waste of fuel, in being almost immediately at sea on clearing the harbour; has the advantage of a considerable saving of distance, and avoidance of the delays and dangers of channel navigation. The disadvantages are the narrowness and rock of the northern entrance; the heavy sea in north-west gales which breaks across it; the coast being subject to a thick haze the greater part of the year, and the difficulty at present of obtaining supplies.

3. The facilities are, the entrances to the harbour are well marked by the Great Skellig, with its two lights; at the northern entrance by the light on Cromwell Fort, prior to the passing of which there is a small, deep bay, well marked by the bold headland of Doulas Head on the east, and Reenadrolaan Point on the west, and the western entrance by the remarkable headland of Bray Head. The difficulties are, the northern entrance is narrow, about 200 yards wide, with a sunken rock about one-third across the channel, and the heavy breaking sea in north-west gales, rendering steerage difficult.

The Lough Kay, or second northern entrance, is encumbered with rocks, which could not be

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removed but at great expense, and would not then be taken but in extreme cases. At the western entrance the channel becomes too shoal (near Portmagee) for large steam-vessels, and has a rock in its centre. The coast is subject to frequent haze, which sometimes renders it difficult to make the land.

Inspecting Commander B. Quadling.

4. A vessel homeward-bound would make the Skelligs, though liable to be driven to the Blaskets, and even farther to the northward, in thick weather, by a current setting to the northward, and the heavy sea occasioned by southerly winds.

5. The facilities for embarking and landing the mails, goods, and passengers with rapidity and convenience at all times, would all have to be created at Renard Point, where it has been proposed to erect the terminus of the contemplated railway. There is a small landing slip, which, it is stated, is about to be improved, and if extended to deep water, would be available for the largest steam-vessel at all states of the tide. The use of it would not be impeded if sheltered by a breakwater, which could be easily and cheaply constructed. At Valentia there is a good pier, with a breakwater just finished, the pier having been extended. It is now 320 feet in length, with eight feet water at the pier-head at low water. but it is not adapted to large steam-vessels during the winter, owing to the heavy sea in bad weather; the breakwater is 380 feet in length, but as the object would be to land at the terminus, the pier would not be much used for the mails, goods, or passengers.

6. During the period when the usual landing places could not be reached. The anchorage is excellent, and the mails and passengers could be immediately and conveniently landed or embarked, except in strong gales from S.S.W. to N.N.W.

7. The low ground at Valentia affords every convenience for the erection of wharfs, docks, and warehouses. Stone for building is excellent, and in great abundance, but all other materials must be imported, and there is a prospect of all necessary conveniences being created if the harbour be chosen as a packet station, by a company already formed, to construct the Valentia and Killarney Railway. With respect to the accommodation of passengers, there is a small hotel at Valentia, and two hotels in the town of Cahirciveen, with a few public and private houses, which would accommodate a considerable number of passengers. With regard to supplies, the district being poor, much would have to be brought from the interior and from Cork. Coals, for a considerable period, must be imported, until the extensive coal fields existing over parts of Kerry and Limerick are made available.

8. The ordinary price of coal adapted to steam-vessels is 1*l.* 5*s.* per ton, but it is imported only for the slab works at Valentia, the fuel used in the district being entirely turf. What the price might be if the supply required greatly exceeded the back freight, cannot at present be known. The above price is charged at the slab works, but the coals are imported at 16*s.* per ton, including freight.

9. The means in contemplation for intercourse with the interior is a railway to Killarney, the projected railway from which to Mallow, when completed, would bring Valentia within six hours of Dublin, thereby opening up an expeditious communication with the manufacturing districts, and bringing the harbour within 19 or 20 hours of London, and which, if constructed, would insure rapid transition, and perfect security from loss or injury for the mails, goods and passengers. With reference to expense, the disembarking of passengers, the unshipping of goods, their conveyance to a Channel port, and again embarking and transhipping, would probably be attended with much inconvenience and expense.

10. The rock in the northern entrance, which has about four feet over it at low water, would require to be removed by blasting, as also the rock in the centre of the southern channel near Portmagee, and the channel would require to be buoyed and deepened.

Inspecting Commander Lieut. Thomas Hungerford (Coast Guard Service).

Inspecting Commander Lieut. T. Hungerford.

1. Berehaven.

2. Facility of intercourse and rapidity of communication with America and the West Indies, being the very farthest point of departure; is in a direct line for transatlantic packets from England, and the avoidance of a long and difficult sea transit between it and the English ports. The many advantages of this harbour are so clearly and ably stated by Captain Evans, R.N., in his Report on the "Western Harbours of Ireland" (and which Report has doubtless been submitted to the Commissioners), and are so completely in accordance with my opinion of its importance, that further statements from me would merely be a reiteration of those already advanced by him.

3. No difficulties whatever to be apprehended, no outlying rocks or shoals, but a fine bold coast that a vessel might rub her sides to without injury. It may be confidently and safely approached at all seasons of the year and in every state of the weather.

4. Skellig Lights and Dursey Island, a fine bold commanding headland, with the remarkable rocks of the Bull, Cow, and Calf close to it.

5. No wharfs or docks, but such are the natural advantages of the place for their construction, there is no doubt that in a very short time private enterprise would provide every accommodation.

6. Anchorage perfect, deep water, good holding-ground, no tide or current, and such is the shelter afforded and consequent smoothness of the water, that mails and passengers could be landed at all times and in all states of the weather.

7. Partly replied to in answer to No. 5. Coals are only imported in small quantities, other descriptions of fuel being abundant; but if a packet station were established, the number of vessels now taking copper ore to Swansea and coming back empty, would immediately bring a return cargo of coals.

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REPLIES TO QUERIES. (No. 1.)

8. About 15s. per ton.

9 Two lines of railway are contemplated; but I do not consider myself competent to offer an opinion as to their respective merits.

Inspecting Commander Lieut. T. Hungerford.

10. It may not be irrelevant for me to state that I served three years in a sloop-of-war on the west coast of Ireland, and a considerable time in a frigate on the Irish station, I have been in most of the harbours in England and Ireland, but confine my remarks principally to Berehaven; and after a careful observation of it for more than three years and a-half, I can safely assert, that for its magnitude, being capable of holding any number of vessels, naval and mercantile, the tranquillity of its waters in all weathers, the absence of strong currents or tides, its facility of ingress and egress, there is no such port in the United Kingdom.

With respect to Galway, it was considered by the captain and officers of the ship a difficult and dangerous port to run for, owing to the low, bad coast and prevalence of thick weather; and for days at a time, when at anchor there, a boat could not leave the ship.

I also remember once running for Long Island, but never attempted it a second time, as it was considered a hazardous, dangerous place to make for.

I have no prejudices in favour of one harbour more than another. From my position in the service I am liable to removal at any moment. I give my opinion conscientiously and in a national point of view, by which motive alone every lover of his country should be governed.

Inspecting Commander F. Kemble.

Inspecting Commander Frederic Kemble (Coast Guard Service).

1. As Galway is the only port I can speak of from personal inspection, I shall therefore confine my remarks to that place.

2. I conceive the advantage of establishing a transatlantic packet station at one of the ports on the west coast of Ireland, for instance, at Galway, to be—

1st. A saving of time in making the sea voyage to America, which by fast vessels could be performed in six or seven days, instead of 10 or 11, as at present.

2ndly. From the position of Galway Bay itself, the steamers would avoid the dangers incurred in the Channel, and the delays and accidents which vessels frequently experience there by reason of fogs, &c.

3rdly. The possibility, after the electric telegraph now in progress on the Great Midland Railway, and the submarine telegraph spoken of between Kingstown and Holyhead have been completed, of transmitting information in a few seconds to London, which may be found of the greatest importance under certain circumstances, and thereby obtaining information about a day and a half sooner than it can be acquired under the present arrangements.

The disadvantage attending the establishment of a packet station on the west coast of Ireland, would be the great inconvenience which must naturally be suffered by that part of the mercantile body who are in the habit at present of sending out goods from England to America by the packets, on account of the frequent shipments and transhipments necessary.

3. The facilities for making or entering Galway Bay, even at present, are great, both by day and night; and when the contemplated alteration of lighthouses on the Arran Islands has taken place, (viz., by removing the light on the North Arran to the northernmost point of the island, and the addition of a light to be placed on the South Island,) in any weather, at any season of the year, vessels would find no difficulty whatever in entering the bay, and steering up to the very town at the head of it.

The only dangers to be avoided by steam-vessels drawing so much water as 19½ feet, would be the "Marguerita" shoal, over which, at low water spring-tides, there is an average depth of about 11 feet, and the Black Rock shoal dry at low water; both of these are within three miles of Mutton Island light, but by placing a light-vessel near either of them, no real danger need be apprehended in any weather, however thick, as the gongs usually supplied to light-vessels would give sufficient warning to the stranger of his approach to the shoal. I am now supposing the Mutton Island light to be obscured by mist or fog.

It has been stated, I have heard, by others who have been called upon for an opinion as to the merits of Galway Bay for a packet station, that there never are thick fogs there, such as are encountered in the English Channel or on the English coast. I can only state from my own experience, after a residence at Galway of three years, that although I have scarcely ever seen so thick a fog as I have met with on the coast of England, still fogs, in the winter particularly, are by no means unfrequent.

4. The light, a vessel homeward bound (to Galway) would naturally first endeavour to make, would be the Arran lights; but if driven by currents or other cause to the northward, she would have the Slyne Head lights to guide her, and to the southward those on Loop Head.

The high land of North Arran, on which the light is at present placed, is about 490 feet above the level of the sea, and a vessel homeward bound would see that land many miles distant, and therefore would make for it.

5. There are at present no wharfs calculated for embarking goods and the mails conveniently; but should the establishment of a packet station at Galway be determined on, wharfs could easily be constructed by forming Mutton Island with the main land, and the erection of a breakwater beyond to extend in the direction of Hare Island, on the opposite side of the anchorage, from which one might also be run out a sufficient distance to make the harbour perfectly safe in any kind of weather, and supply the means of landing and shipping goods and mails from them with great convenience and safety. The entrance of the floating-

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REPLIES TO QUERIES. (No. 1.)

Inspecting Commander F. Kemble.

dock at Galway is 56 feet wide, therefore, I presume, of sufficient breadth to allow any of the large steamers to enter, if necessary to do so; and although the depth of water over the bar, at its entrance, is not more than 17 or 18 feet at present, at high-water spring tides, still the obstruction is daily being removed by a dredge-vessel kept constantly at work.

No better holding-ground could be found anywhere than that afforded in Galway Roads, being composed of a thick blue clay.

I do not hear at Galway any intention on the part of the inhabitants to come forward and find the means for building the breakwater, and other works necessary to make Galway Roads perfectly convenient and secure for the mail-steamers; but all eyes seem turned either to the Railway Company, the Government, or to American enterprise. The estimated sum required for completing the breakwaters and wharfs alone is stated to be about 180,000*l.*

I hear that the American papers have dwelt much and largely on the advantages of establishing a direct communication with Europe by Galway.

6. The nature of the anchorage, as far as the holding-ground is concerned, is, as I have before stated, very good; and although in the winter months a heavy sea gets up in a very short space of time, still mails and passengers could generally be landed and embarked with no great inconvenience, more particularly if a small steamer were employed for their conveyance.

7. There are no conveniences at present afforded in this port, for the repairs and maintenance of the packets and their engines, boilers, machinery, &c., but the railway which is to be opened next year suggests the means of obtaining the necessary supplies. There are some very fine warehouses, and storehouses for the stowage of goods in the vicinity of the dock, that would do credit to Liverpool itself; and passengers would find ample accommodation in the town. A railway hotel is to be constructed at the terminus in Galway-square, which, from my knowledge of the individuals who are to conduct it, I have no doubt will prove very convenient and comfortable.

Steam-vessels cannot, at present, be coaled in the docks, but in the roads, by means of large hookers kept for that purpose.

8. The ordinary price of coal adapted to steam-vessels is about 14*s.* per ton, but might be as low as 10*s.* or 11*s.* by competition in the market, if the demand became much greater than at present.

I have been informed that parties in Glasgow have it in contemplation to establish a coal-yard here, which, as they have the means of procuring coal at prime cost, they would be enabled to sell at a much lower rate than the merchants here can at present. The price of coal has not been influenced by back-freight since the famine of 1847, there being now no produce shipped from this port as formerly.

9. The line of railway from Galway to Dublin direct, is in course of progress, and will be sufficiently completed for traffic by July or August next. This line will open a direct communication with the capital, and with Galway, to all the principal towns due west of Dublin, and consequently be also directly open for the conveyance of passengers and produce to the counties of Galway, Roscommon, King's County, Westmeath, Meath, and Kildare, through which it passes. The journey by rail from Dublin to Galway will be performed in about five hours.

The "Great Southern and Western Railway" passes at one point within about 10 miles of the direct line before mentioned (between Dublin and Galway), and arrangements might be made for the conveyance of passengers and goods by a "Junction Line of Railway," or by other means, so as to place Cork, Limerick, and the south of Ireland, in direct railway communication with Galway.

The security from loss and injury, and the expense, will, I presume, be the same as on all other railways.

10. If a regular line of packets should be established here in communication with America, Galway will become the great port for emigration to that country, and the circulation of money, in consequence, cannot fail to have a most salutary effect on this part of Ireland, where it is so much needed.

I think that the vessels employed as packets between this place and America should have accommodation for a number of third-class passengers, many of whom would be glad to pay even a little more for their passage, in exchange for the safety and comfort they would enjoy, with such a considerable difference in the length of voyage.

I have seen emigrant vessels lying here week after week, waiting, it was alleged, for a fair wind, or some other excuse; the wretched emigrants having nearly consumed the provisions that should have lasted them for the whole voyage, and having to purchase (if they could do so) a fresh supply before they had ever weighed anchor. And when at last a fair wind did arise, nothing has been ready for starting, and the opportunity lost. Many emigrants would be sensible of all these disadvantages, and gladly avail themselves of the packets as, in the long run, the cheaper conveyance.

The American newspapers seem full of the advantages to be derived by a direct communication, by steam, with Galway; and I think this is a point not to be lost sight of, as to the policy of Government assistance and interference.

Inspecting Commander Montague Pasco (Coast Guard Service).

Inspecting Commander M. Pasco.

1. Tarbert.

2. The advantages are, that the voyage would be shortened by about eight-and-forty hours. I do not know of any other immediate advantage, except for local benefit.

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REPLIES TO QUERIES. (No. 1.)

Inspecting Commander M. Pasco.

3. There is no difficulty in making the coast; and there are no rocks or shoals to prevent a vessel drawing 19½ feet water coming in.

4. Brandon Mountain, or the Blaskets, by day; and Loop Head light by night.

5. There is a wharf at Tarbert, at which a boat could land at low water, and in all weathers: heavy goods could not be landed, except at high water, there not being a crane there. Depth of water at spring-tides, alongside the wharf, is from 12 to 14 feet at high water, and nearly dry at low. The entrance round the lighthouse, 10 or 12 fathoms. Approach to wharf by steps at the side. There are not any docks there,

6. Good anchorage in 7 fathoms water, 2 cables' length off shore. Mails and passengers could be conveniently landed or embarked in all weathers, by boats; but not heavy goods, except at high water.

7. There are no conveniences for the repairs of boilers and machinery in general. Supplies could be easily obtained, if a station were established. There is no accommodation for passengers or goods; and no coal depôt, at present.

8. Coal about a guinea per ton; to the latter part of this question I am not able to give a reply.

9. The only means of conveyance to the capital, or interior and manufacturing districts, is by cars, or by the City of Dublin Steam Packet Company direct to Limerick, and by railway to Dublin and Cork; but small despatch steamers for mails and passengers would be a great convenience, as they could go up at any time of tide.

10. I have not any further observations to offer on the subject.

Inspecting Commander W. O'Brien Hoare.

Inspecting Commander William O'Brien Hoare (Coast Guard Service).

1. On the port of Cork alone, as a port of call.

2. I consider, if the port of Cork be entertained as a port of call for one year, that is, taking a winter and summer season, it would prove its beneficial advantages. First, as regards the extension of time it would afford mercantile men, as well as all other persons, passing out and home by the packets, namely "out," from London, embarking at Cork (giving steamers starting from Liverpool the average passage of 24 hours to abreast of Cork Harbour), 14 hours may be gained in London by passengers and mails adopting Holyhead, Dublin, and Cork route for embarkation; and in the same ratio to other principal towns of England and Ireland.

As the transatlantic steamers now pass out and home generally within sight of this port, the deviation of course, with delay of embarkation, would average a loss of five hours (not more I think) on outward voyage, which I imagine is of the greatest importance for consideration, as of course, homeward, the chances of reaching trains starting from Cork will be greatly in favour of expedition in transmission of mails and passengers to London, as all other towns of mercantile importance. The passage from this port to Liverpool, in winter more particularly, is often tedious, and attended with much risk, from my own knowledge, having made the same; and therefore, a certain delay occurs in this portion of the voyage from America, of some import with mails. Such could, I am of opinion, never occur if this port were adopted as a port of call. The railway communication with this anchorage now comes within two miles of landing, or where I would suggest the transatlantic steamers should communicate with. The steam packets now running between this port, Southampton, (thus connecting France,) Plymouth, Falmouth, and Bristol, I am of opinion might render valuable and constant freight to the transatlantic steamers. The railway lines of Ireland would also be greatly aided and advanced by such use. The early use of the electric telegraph would ensue, between Cork and London.

The general supply of live stock could be had at a much cheaper rate than at Liverpool; and, from the increasing opulence of the numerous Irish now in America who are, more or less, yet connected with this country, a direct communication with Ireland, I am of opinion, would add greatly to a passenger-traffic in said steamers.

3. The port of Cork has constantly at sea, in all weathers, nine first-class pilot cutters, which generally reach some 30 miles westerly of the Galley Head; the total average of branch pilots at sea, from this port, in hookers and whale boats, &c., is 113; and I may state, in most weathers they persevere in keeping at sea, and a vast emulation exists. But the facility afforded from the Cape Clear light and the Old Head light, renders Cork harbour, at all times, from its clear entrance from dangers, most desirable; and to steamers, accessible with all winds and tides. The Daunt Rock, indicated by buoy thereon in daylight, 14 feet at low water. An offing, after passing Old Head, of four miles, until the Cork Harbour light is made, when you are to the eastward of Daunt Rock, and have nothing but the Harbour Rock buoy laying just middle channel, abreast of Harbour lighthouse, which can be passed at pistol-shot; therefore, by night, an observance to passing in on either shore will clearly avoid the Harbour Rock. Soundings regular, and water deep, render Cork safe in approach at any time or wind, in a steamer under power, or indeed in a sailing vessel, except with a S.E. gale. And should the light about to be shown on Ballycotton be made a proper distinguishing light (such as a flash-light), or a second lighthouse be erected, which most certainly would be the correct plan, and might be made so useful in indicating a night-mark for clearing the Smith's Rocks coming from the eastward. Certainly, the new light on Ballycotton will do such with common attention on bearing. The light on Ballycotton will be found of some service, I am of opinion, in vessels coming in from the westward also; as it will assure them of a position for hauling in for Cork harbour.

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REPLIES TO QUERIES. (No. 1.)

Inspecting Commander W. O'Brien Hoare.

4. Coming from the westward, bound to Cork, the headlands and lights to make are—Cape Clear, Old Head of Kinsale, and Cork Harbour lighthouse; coming from eastward, Ballycotton, on Roche's Point, eastern headland at entrance, which may be passed close without danger. Land high on both sides of the harbour, up to anchorage, which is spacious and very good, and sheltered from all winds. The intention of the Cork Harbour Board to place a proper light at the Spit, or turn up the river, will form an excellent leading mark in by night, although soundings are regular, and a seaman once in cannot be at a loss. I am of opinion the average number of foreign shipping now coming home use Cork as a port of call; and in all weathers, often without pilote, run in.

5. The only available wharf at present, for a vessel drawing 19 feet 6 inches, in this harbour, to lay afloat at a brow distance, would be at Haulbowline, Her Majesty's dockyard. This wharf could, in any moderate and clear weather, be reached at all times of tide, but with no certainty, I am of opinion, during dark nights, without risk of running foul of vessels in channel, up to or from Spit light. The harbour within forts is capacious, combines every safety, and during the many years I have at different times visited it, I have no recollection of a day or night that a communication could not be made with the shore. Steam-tugs are in constant use here now, and every facility is now to be had on the spot for transmission of mails and passengers to the railways.

6. The holding-ground of anchorage is good; mails and passengers can at all times be landed in safety, or embarked likewise, the port of Queenstown affording now every facility for the same.

7. I am of opinion, that the ordinary required repairs and maintenance of steam-engines can be had in this port; and that, early in 1851, Messrs. Browne and Co., of Passage, will prepare and enlarge their present dry dock, so as to admit of the largest tonnage steamer entering. No more enterprising men in the south of Ireland are there, I may here say, than the Messrs. Browne. This dock is situated at Passage, one mile and a quarter from anchorage, perfectly land-locked and sheltered from all winds.

Supplies of all descriptions are obtainable at a very reasonable rate.

Accommodation for stowage of goods may be bad; and also coaling can be done with facility.

8. The ordinary price of steam coal, fit for Her Majesty's steamers, is from 14*s.* to 16*s.* per ton. I understand that the price of coal could not be influenced in the least by the export of produce from this, as the coal trade is carried on here independent of all other; and I can, from my reports of boardings, confirm this as true.

9. The railways now running into Cork are three, namely—Passage Railway (communicating every hour during the day with the harbour direct); Bandon Railway, from west of Cork, and promising a further extension; and the Great Southern and Western, causing a general communication with all parts of Ireland; and communication, *viâ* Holyhead, with London, can be made in 18 hours easily, though the minimum may be 16 hours, allowing 5 hours as an average passage between Holyhead and Kingstown. Therefore, communications on the same ratio are opened with all the principal towns and manufacturing districts. Expedition in transmission of mails and passengers is much improved and accelerated.

10. I am of opinion, to avoid all delays and cause of uncertainty in using this Cork Harbour as a port of call, pending the wharf and pier improvement on Queenstown side, that a hulk of commodious size, such as a line of battle ship, should be moored in a position selected in shelter from the most prevailing wind, out of strong run of tide, and so entirely clear of the numerous shipping, that the transatlantic steamers could run alongside at all hours, day and night; as without the interference also, or danger in the exhibition of certain lights, I would propose to indicate by night the hulk's laying position.

Goods of all descriptions, intended for transatlantic steamers—coals, stock—might lie here in depôt, ready. And even the accommodation for passengers, in case of night arrival, may be arranged; although the distance from the landing, where I would propose this hulk should be placed, could be done in 15 minutes. The great benefit to arise from this plan is, that the packets would have such free entry and departure without trouble or risk of anything like collision.

SIR, *Castletownsend, December* 17, 1850.

IN reply to your letter of the 13th instant, No. $\frac{502}{15}$, enclosing certain queries on the subject of a packet station, I have the honour to report, that never having been employed, as a naval officer afloat, on the coast of Ireland, and never having seen the places on the list at the head of the queries, except Cork and Long Island, I am not competent to give that decided opinion which is required in answer to these queries.

My coast guard duties in this district have, however, made me sufficiently acquainted with Long Island sound, to submit my opinion that it is a very commodious, sufficiently deep, and perfectly safe anchorage for all kinds of shipping; and having two entrances, east and west, with no hidden dangers, it appears to me to be easy of access and egress in almost all winds, and therefore might be made a good port for any purpose whatever. Cork harbour is well known as one of the best in the United Kingdom. I have only been there occasionally for a few days when serving in the channel squadron, and am not qualified to add anything new to the general stock of information about that port.

On the subject of a packet station generally, I remark, that if it be wished to establish one for the benefit of all Ireland, I think no place can be selected better than Cork. If any par-

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Replies to Queries. (No. 1.)

Inspecting Commander W. O'Brien Hoare.

tioular district is to be benefited, Long Island is the next best place within my knowledge; but, from all I can learn, I believe Berehaven would be a better port than Long Island.

With respect to the landing and embarking mails and passengers, and communicating news generally to the British public, I think Plymouth ought to be the principal packet station in the United Kingdom, Cork next, and then Berehaven or Long Island; one of the two latter being desirable, in the event of easterly gales, or damaged machinery in a steam-ship. For general commerce, Liverpool is, and ever will be, the best port in the Kingdom. Plymouth will one day vie with it, but will never equal it.

I have ventured to make these remarks in answer to query No. 10, and I respectfully submit them as merely my opinions, without any experienced knowledge of the subject.

I have, &c.,

Comptroller-General, Coast Guard. J. H. Norcock, *Inspecting Commander.*

Captain Sir Edward Belcher, R.N.

Captain Sir Edward Belcher, R.N.

1. I have not any personal knowledge of any of the western ports of Ireland; but from the habit of inspecting charts, and entering unknown harbours, guided by the general features of the land, can form pretty accurate ideas of the difficulties attending the approach to the coasts in question.

2. I do not know of any advantages, taking into consideration the vessels alluded to.

From my general knowledge of the entrance to the British Channel, the swell which sets on to the S.W. coast of Ireland, with the prevailing fogs, added to the very doubtful guide which soundings afford to these vessels, and to the impossibility of delay, if in doubt, to mail packets particularly, with a south or south-west gale, I should not deem it safe to risk vessels of this class, particularly if light and short of coal, upon a coast generally admitted to be, in moderate but hazy weather, dangerous.

There may not be danger in standing on for the land, if clearly made out, even with a following sea. But the danger is great when altering course, by bringing the sea on the broadside,—damaging the machinery,—"send of the sea" driving her beyond her course; and, as very frequently occurs, mistaking the marks, and compelled to resort to sea again, if she can effect it.

I think these disadvantages more than counterbalance any supposed advantage of saving of time, which I shall probably explain more satisfactorily at another part of my replies.

These observations are founded on my own knowledge of the vessels, &c.

3. I do not think, at any season of the year, that it would be advisable to risk vessels of this description by approaching the coast of Ireland between Galway and the Fastnet, or Cape Clear.

I should not deem it safe, in southerly or south-westerly gales, existing or to be apprehended by the state of the barometer, to near the south-western angle of Ireland at all; more particularly if the customary swell from the Bay of Biscay prevailed.

It is dangerous, at all times, to approach such an extent of coast as that presented by Ireland, 258 miles of latitude, with the possibility of its becoming a lee-shore.

I think we are bound to consider the packets in question as strangers to the entire line of coast; and I make this observation somewhat with the feeling, that although in our own profession, and in my own particular sphere, that we should scout the idea of danger to ships of war, and under absolute command, with officers and pilots prepared to overcome every difficulty, that we cannot possibly expect the same from such packets as those under discussion. That there is a very wide difference between the complement of men necessary to navigate such steam-vessels from port to port, taking on board local pilots, as weather permits; and, in the event of accident occurring in a heavy gale, that the management of such vessels, then undermanned, on a lee-shore, such as Ireland presents, would be fearful to contemplate.

But I apprehend that the question does not apply to the list of ports in question, but to some specific port, which is to become the absolute station at which she must arrive and deliver mails and passengers, and from which she must regularly depart.

I do not think that Ireland can offer this important desideratum.

From my present knowledge of Liverpool and its approaches, having, whilst in charge of "the Irish Sea Survey," in 1835 and 1836, tested its low-water difficulties, in all weathers, by night as well as by day, I should assert that it possesses all the important features combined, which renders it the most eligible port for departure as well as arrival.

It possesses, also, this commanding feature, that whatever fogs or other impediments prevail, that good anchorage, and the unmistakeable criterion of 14 fathoms, keeps clear of any danger,—a solace to the commander as well as to his passengers. Moreover, should disaster compel him to anchor, safe conveyances for the mails, by steam, are instantly at command.

Even if his engines should be disabled, or unforeseen accidents have reduced his coal, he can find good and smooth-water refuge within the Irish Sea, or under the Isle of Man.

Cork would afford this refuge, if the commander sought Cork; but I should question the propriety of seeking that coast when he could do better.

It must be evident from an examination of the chart of the Irish Sea, that Liverpool is protected when ingress to the ports of Ireland would be problematical.

4. This is a matter for consideration, when distant about 900 or 600 miles from the north coast of Ireland,—say Tory Island. Upon the judgment of the commander, at this crisis, the length of the voyage, danger, or security, in some degree depends,

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If the commander is compelled to seek a southern port of Ireland, he must "endeavour" to make Cape Clear.

5. I am not able to state, from my own knowledge, any matters connected herewith, having no local knowledge of the ports in question.

The rise of tide at the Irish ports, compared with that of Liverpool, is—

	Feet.	Inch.
Liverpool	31	0
Galway	16	0
Cork	12	8
Valentia	11	0
Bantry Bay	10	6
Berehaven	10	0

6. Cannot reply to these matters, having, as before stated, no personal knowledge.

7. I am unable to answer this question, as immediately applicable to any distinct ports in Ireland; but as an engineer, accustomed to estimate large works, and with the knowledge how far those estimates are exceeded, when taken in hand by contract, it is manifest to me, that in order to maintain the Atlantic steamers, of the hurthen now built and in progress of building, and of the draught specified, that estimates far exceeding those for any of our docks in our English arsenals would not cover the expense; that nothing short of a complete establishment equal to Woolwich in point of dock entrance,* or such as can be found at Liverpool, would sustain the necessary repairs.

It might, indeed, be supported by keeping up "an auxiliary steamer," and sending the vessel requiring extensive repair to Liverpool.

With regard to passengers and goods, that I conceive to be a matter certain to follow the establishment of a station. If established, then the inconvenience is so important as to prevent persons, not impelled by actual necessity, from proceeding by a British packet; and the accommodation will probably be adequate.

I have, however, in my view just now, the 180 passengers which accompanied me in the "Asia," with their goods and luggage, added to the customary traffic at Holyhead, crossing to Dublin,—and between shipments and transhipments, and railroad grievances,—reaching the Irish station to embark during a heavy south gale! As to cargo, I shall pause.

8. The coal generally used for the British mail steamers is principally Welsh, either from Cardiff or Newport, averaging about 9*s.* per ton.

Lancashire coal, also adapted for steaming, can be procured at 8*s.*

The Welsh coal is, however, preferable, and from its greater density, occupies less space. The Americans consider that the difference in keeping up draught, as well as steam, is greatly in favour of the Welsh. They even attributed, at one time, the greater success of British steamers to this source.

To secure a supply of Welsh coals at Cork would entail an addition of 5*s.* to 6*s.* per ton; making it, delivered, probably 16*s.* per ton.

To Limerick, I am informed that it would be about 12*s.* freight, or 22*s.* delivered.

I am not sufficiently conversant with the Irish trade to state what back freights there might be to Newport or Cardiff. My impression is—none.

9. To the first portion, unable to reply.

If the latter portion of this question applies to the transfer of mails, passengers, and goods to the capital, and onwards to their destination in England, I have glanced at in my last reply. The expenses attending the transfer of passengers, their luggage, and the cargo, overland to Dublin,—reshipping, transporting to Liverpool, and transhipment there,—would be equivalent, in wear and tear, to two voyages between New York and Liverpool, by the present easy mode. The mails might probably reach London some hours earlier, certainly not more than 12. But the detention to passengers, with luggage, &c., would probably exceed one day, if not two.

The cargo, I should imagine, would be transhipped into a steamer. I do not think that any would be procured for a second experiment.

The goods generally shipped by these vessels are British and Foreign.

British manufactured goods, chiefly from the districts about Liverpool, and some from Glasgow.

Foreign goods, through Hull, Folkestone, London, &c.

None of these goods would be sent through Ireland. Sailing ships from Liverpool would be preferred to sending by that route, which would entail transhipment, loss of time, and increase of cost.

10. Taking into consideration the question which I imagine to be that really at issue, would any alteration in the present mode of conveying the mails across the Atlantic, between New York and Great Britain, by touching at a port in Ireland, facilitate or impede the delivery? I will first explain, that in the present improved state of navigation, it is expedient to pursue what is at length acknowledged to be the shortest route between port and port, or what is now termed "great circle sailing;" or by taking advantage of the lesser meridians of longitude, in high latitudes, instead of the old and long supposed shortest distance, as a direct line on the chart would appear to indicate.

This explanation then will, I trust, explain the great sweep which the British mail steamers apparently take, deviating from a direct line. I do not mean to say that this great deviation is quite necessary on the coast of Newfoundland, but it supplies an excellent point for "departure,"

* Sixty-four feet at paddle-box.

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REPLIES TO QUERIES. (No. 1.)

Captain Sir Edward Belcher, R.N.

as it is termed in navigation, and where fogs frequently obscure the sun, and prevent the requisite astronomical observations, gives confidence to the commander and certainty to his course from thence. Cape Race, the point alluded to, is in lat. 46° 40′; but the parallel to which it is necessary to go is about 55° 30′ N. The bearing of my reply to No. 4 will now become apparent.

If the vessel has reached within 600 miles of Tory Island, the discretion or judgment of the commander is called into play. He has then two courses at his command, that by the north of Ireland undoubtedly the best; and if his barometer warns him of southerly and heavy gales, or the swell informs him that they have been blowing, as both indications were experienced on our homeward voyage in the "Africa," without experiencing their force.—for they frequently do not reach the high latitudes, for reasons too lengthy to find a place here—then, surely, he has the means at command of making the best and easiest passage.

On the other hand, if ordered to reach an Irish port, against every difficulty, he may not only be delayed many days, but eventually, by damage or failure of coal (as in the late case of the Baltic, after expending 1,900 tons), be compelled to seek her passage by the north, under canvas.

On the other hand, should the barometer be high, and indications of a northerly wind be apparent, the route by the south of Ireland then affords an oblique course, under canvas, and nearly the same length of passage in time, owing to less obstruction.

To Her Majesty's cruisers, supplied with every possible chart, officers well acquainted with every headland, and efficient Irish pilots constantly on board, the coast of Ireland may not have its terrors. But to some of the most experienced I know that, passing from north to south, even in fine weather, they have felt uneasy lest a breeze should catch them before they had passed beyond the entrance of the Shannon.

The case I have taken applies to the homeward voyage. I will now contrast the outward, under a heavy gale from the westward. Supposing a packet compelled to quit a port in Ireland, in the teeth of such a gale as experienced by the "Atlantic," as well as Baltic American steamers. Of the latter, I learn, that she "churned for three days, without making much progress, and after an expenditure of 1,900 tons of coal, could not reach New York; putting into Newhaven to replenish coal." Had the "Atlantic" broken her shaft when Ireland was "dead under her lee," her misfortune might have been fatal!

Without discussing what might happen to our British packets, I think that retardation must be conceded; and as in these heavy gales, particularly off the south-west of Ireland, the bay or ocean swell compels the commander to keep the vessel "head to sea," no advantage under canvas, in making the desired "northing," could be effected.

If the vessel started from Liverpool she would pass the Isle of Man under the lee of Ireland, and reach Tory Island in the very parallel desired before she encountered the western swell, then much broken by the irregularities of the Irish coast; indeed she would get out of soundings into a regular sea before the vessel from Ireland could reach a position even of security.

But, in point of navigation, the vessel from Liverpool has the most decided advantage. She can afford to shape a course, which, under small canvas and her steam power, would enable her to run securely, and the deviation would not be a serious loss in distance.

The vessel from the south-west point of Ireland could not risk this.

I have before alluded to the failure in obtaining the necessary observations to determine the position of the vessel.

On our homeward voyage in the Africa we had no observation after sighting Cape Race, Newfoundland, but we hit Tory Island beautifully, in very thick weather.

Supposing Galway to be the port of destination, what would have been the risk of making for that port when the barometer was at its lowest, the swell indicated a heavy gale to the southward (and the newspapers confirmed its violence), the "Africa" at that period making "good speed" (through a long swell but smooth surface) towards Tory Island?

Until a velocity equal to 18 miles an hour can be relied on, no important saving of time can be hoped for by change of the packet system now in operation.

But this velocity I am fully satisfied never can be attained by any vessels of larger dimensions than the "Vivid" or "Banshee." Vessels purposely constructed, without heavy spars to impede them, and subject to frequent "battening down," and to carry mails only, might incur the risks of the Irish coasts, but as they could not carry the coal requisite for so long a voyage, their employment cannot be expected for transatlantic mails.

The Americans are now exerting every nerve to run us off the ocean. Already have our famed whale ships diminished fearfully. "The Collins' line" presses on to eclipse that of our British packets, and already are they exulting at New York, anticipating the removal of their rivals to the ports of Ireland.

If such a decision ever attains, they will enjoy the entire carriage of passengers and freight, for I am fully satisfied that no person, unless impelled by necessity, or being on the spot of departure, would undergo all the miseries and difficulties of transport from London to a western port of Ireland, when six hours would place him comfortably on board a vessel at Liverpool.

Wishing to be perfectly satisfied as to the powers of these vessels, and their extreme draught of water, I made the following inquiries:—

What has been the extreme draught?—Twenty to 22 feet. Asia, when I embarked, 20 feet 6 inches. Before the passengers and baggage embarked, I read 20 feet 2 inches.

What speed could you attain against a S.S.W. gale, if compelled to make good a S.E.

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course, to fetch a south-western Irish port?—Might go three miles per hour against a heavy south-west gale. This is wind aheam.

What could you make good under similar circumstances head to wind?—The Canada, one of the best of our steamers, with the wind "dead ahead," blowing a gale from the west, made only 64 miles in 24 hours.

Have you experienced any gales from E.S.E. to compare with those from south to south-west?—In the Atlantic Ocean E.S.E. gales will not compare in violence, nor in duration, with south to south-west gales.

The results, then, of my opinions are, that the large transatlantic steamers charged with the conveyance of the mails, and bound to deliver at a fixed port, cannot risk delay by waiting for an opportunity to enter any port in Ireland, particularly as, I trust, it has been clearly shown that by pursuing a northerly course Liverpool could be reached in less time, and by a comparatively smooth water run.

That no appreciable time can be saved by a deviation from the present route.

That the risk of the loss of the mails, and consequently the correspondence between the two worlds, will not at present warrant such an experiment. Moreover, as the superscription on the greater part of the American letters insists on a British steamer, that any alteration would shake confidence on the part of those principally interested.

That the pilotage to be required in every such vessel would involve the entire coast of western island, not solely the particular port to which the vessel would be bound.

And to incur the risks attendant on the approach to Irish ports, as under discussion, the vessels must be more heavily rigged and more fully manned, with a superior class of seamen also to those generally employed in ocean steamers.

I have added a rough illustration of great circle sailing between New York and Liverpool, by the north of Ireland. The direct distance, "as the crow flies," is through Ireland. The other by the circuitous long lines which may be navigated.

Rough Illustration of Great Circle Sailing between New York and Liverpool to the North of Ireland.

New York, as the crow flies	. . . . .	2,989 miles.
New York . .	40·42 N. 74·0 W.	
	42·30 60 0	
	N. 77·44 E. .	508·4
	42·30 60·0	
	50·00 45·0	
	N. 54.3 E. . .	766·7
	50· 0 45·0	
	55· 0 30·0	
	N. 61·16 E. .	624·0
	55· 0 30·0	
	55·30 6·0	
	N. 87·6 E. . .	829·5
	55·30 6·0	
	53·24 3·0	
	S. 39·42 E. .	163·7
		2,892·3
	Direct . . .	2,989·0
	Less by Great Circle .	96·7

But the last 163·7 might be cut off if Ireland did not interpose.

Mr. Anthony Marmion.

[Author of a Work intended to be published on the Maritime Ports of Ireland.]

1. Having visited six of the eight ports (some of them repeatedly) now competing for the establishment of a transatlantic packet station, and having been almost exclusively employed for the last twelve months in collecting historical, nautical, and other statistical information for a work, "The Ancient and Modern History of the Maritime Ports of Ireland," which I am now preparing for the press, I consider myself in possession of many important facts, and fully competent to give an opinion as to which of them is best calculated for such an establishment on the Irish coast.

2. The advantages of establishing a transatlantic packet station at any of the ports named in Query 1, are numerous and obvious; 1stly. A saving of time from 20 to 36 hours which such steamers take on an average to make good the voyage to Holyhead, Liverpool, or other suitable port in the Channel, after arriving off the west or south-west coast of Ireland. 2ndly. The great value to Government, the press, to the commercial

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Replies to Queries. (No. 1.)

Mr. Anthony Marmion.

and manufacturing community, and the public at large, of early telegraphic intelligence by way of Dublin and Holyhead, which can be communicated in a few hours to London, instead of waiting, as now, the arrival of the packet at Liverpool, and almost instantaneously, when the electric and submarine telegraph is established. 3rdly. The saving in the premium of insurance on ship and cargo, as well as the security to life and property, more exposed as they are by the dangerous navigation of the Channel than in any other part of the voyage. 4thly. A saving in coal, both in price and quantity. 5thly. A saving of wear and tear of the steamers. 6thly. The benefit to the public of reduced fares. The disadvantages consist solely in the loss that may be sustained by these vessels not obtaining full and profitable cargoes, as now, at Liverpool, which will be seen, in the sequel, is not likely to be the case, and if it were, it is a matter of small consideration in comparison to the advantages to be obtained.

3. Cape Clear Light, once descried by vessels such as those described in this query, and bound to Cork, the remainder of the voyage is performed in perfect safety; for although the coast is bold, there is no lee shore, but abundance of sea-room; and in thick weather there are the most perfect indications by lead-sonndings of approaching the land: this harbour can be thus easily attained in all weathers. Long Island, although easy of access, and capable of affording accommodation to wind-bound or disabled vessels, is not calculated for a packet station. Crookhaven is situated on the most southern promontory of Ireland, inside Brownhead, a continuation of Mizenhead, and about seven miles north-west of the Fastnet Light. It has also the advantage of another light at Ballydevlin Bay. It is much frequented by transatlantic traders, being in the direct course between the coast of America and that of England. A vessel leaving this harbour, and clearing the Alderman Rocks, is free of a lee-shore, being at once on the wide ocean, and should she be unable to beat out of the bay, or to return during a south or south-west gale, she could make for Long Island, or Skull where there is good and safe anchorage for vessels of any description. Although it is probably too small, it would still be an eligible harbour for a packet station if there were not others so vastly superior in its immediate vicinity. Dunmanus Bay is on the other side of the promontory. The port of that name is north of Crookhaven, and easy of access, but exceedingly small, and little frequented. Vessels find great difficulty in clearing out of it during south or south-west gales; and if unable to fetch back, they would be driven up the bay, without finding refuge in any other port; it is not, therefore, adapted for a packet station, and could only have been thought of for such a purpose from its proximity to the Bandon and Cork Railway. Berehaven, in and near the entrance to Bantry Bay, on the south-west coast of Ireland, is most eligibly situated for intercourse with America, the West Indies, the coast of Spain and Portugal, the Mediterranean, the ports of England, and the south and east of Ireland, and lies in the course of vessels trading to and from these ports with America. It possesses great facilities of ingress and egress with the wind from any point and in all weathers. The entrance from the Atlantic is of considerable width and great depth, having 19 fathoms water throughout, whilst inside there are 2,900 acres, covered with from 6 to 15 fathoms at low-water spring tides, and 1,900 acres, with over five fathoms, at low water; whereas, at Holyhead there are only 127 acres, and at Crookhaven 84 acres so covered at low water. Should the weather at any time prove so unfavourable as to prevent a ship putting to sea by the western entrance, she can always beat out by the eastern against a head wind as long as she can carry canvas. A trifling expense would only be necessary here to render this the finest harbour in Europe. Valentia, on the west coast of Ireland, lies well for communication with America, and has the advantage of proximity thereto of any of the ports already described. The entrance to it is from the Atlantic, with the Skelligs as leading lights. There is no lee shore to encounter, and the anchorage inside is good, in five to seven fathoms water; but, in comparison to Cork or Berehaven, it is of small dimensions, and the north-west or principal entrance so narrow, that some nautical men term it a blind harbour. It is contended that it could be widened at a moderate expense, but as it lies out of the course of vessels trading from the ports of the United Kingdom to America, and for other reasons which shall be detailed in their proper place, it is not so well adapted for a transatlantic packet station as Berehaven. It is said that strong tides and currents prevail between Cape Clear and the Blaskets when the wind blows fresh from the south-west, which would alike affect Berehaven and Valentia; but experienced and disinterested nautical men pronounce them not dangerous, even in the most severe winters, to any well-appointed vessel, such as the Post Office transatlantic steamers unquestionably are. Tarbert, on the west coast, near the entrance, and on the south side of that splendid river the Shannon, holds out great advantages for the establishment of a transatlantic packet station; but the west coast north of Valentia is subject to considerable haze in the winter season: it is also more distant from British America than either Valentia or Berehaven. Its distance from Halifax is estimated at 2,448 miles; Berehaven, 2,417; Valentia, 2,400; Galway, 2,462; and Cork, 2,490 miles. Independent of other outlay, it would require 35 miles of railway to meet the Waterford and Limerick line; the distance would be then from the capital 162 miles. Galway is also situated on the west coast, and is, in many respects, well circumstanced for communication with America; but one great drawback on its advantages is, that a vessel homeward bound from Halifax would first make the Skelligs, after which she would have to beat up along an iron-bound coast, subject to fog and haze, and dangerous in the winter season, from the paucity of safety harbours on that part of the coast. The bay is splendid, and after entering it there is deep smooth water to the town.

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4. Vessels steering from America for the west or south-west coast of Ireland, invariably make the Skelligs seen 25 miles to sea; but those taking a more south or south-east course, would probably first discern Cape Clear light 28 miles to sea, and Mizenhead, as a headland, if the weather was clear, in both instances.

5. Cork has immense facilities for all the purposes stated in this query, without the expenditure of a shilling outlay being necessary. Cork Harbour, or Queenstown (as now called), can be entered at all times of tide by first-class ships of war, and packets drawing 19½ feet and upwards have sufficient water to passage at the lowest neap-tide, where the landing of the mails and passengers can be instantaneously effected at the steam-packet wharf contiguous to the terminus of the Cork and Passage Railway, which communicates with the Great Southern and Western, and thence is complete to Dublin. Berebaven can be entered at all times by the largest ship ever built. The entrance is magnificent. There are 19 fathoms of water all across it, as shown in answer to Query 3, and nature has formed the most perfect harbour within. Although there are no docks, the rocky beach forms a complete wharf, alongside of which a vessel may moor in over six fathoms of perfectly smooth water, and a passenger may leap thereon from the deck of a steamer, and the mails be handed ashore. Galway also possesses all the necessary facilities required in this query; the bay is trumpet-mouthed, with several entrances, all of which are equally safe, and calculated for the admission of the largest vessels. Within the bay there is smooth and sufficient water at all times of tide to the town, where there is a floating dock of five acres, from whence the mails and passengers can he landed and embarked at all times with security and rapidity, and not liable to he impeded hy either wind or weather. The other ports named in Query 1, for the reasons stated in answer to Query 3, and for others which shall hereafter appear, it is not deemed necessary to go into the particulars concerning them required in the present query.

6. The answer to the foregoing query is applicable to this also, as far as regards Cork, Berehaven, and Galway, where there are neither boats nor small craft required, and where the passengers and mails, as shown in the preceding answer, can be landed in all weathers with perfect safety and expedition.

7. Cork possesses every convenience for the purposes required in this query. It has two steam factories of great repute, and large steamers have been recently built and equipped there. It has also warehouses, dry-docks, dockyards, and every accommodation for repairing, victualling, and otherwise providing steamers with the necessary supplies, and for storing goods. At Passage the dry-dock there is about being enlarged, in accordance with the suggestions of the Admiralty, and under the approval of their Lordships a new dock has been laid down, which will afford accommodation to the largest ships in the navy. Haulbowline affords storage for coals to any extent, and the packet can go alongside the wharf at any time of tide to take them in. The hotels also are equal to any in Liverpool for the accommodation of passengers. Galway has also a foundry and other wrought-iron works, where steam-boat machinery could be well repaired, and all necessary supplies obtained, as at Cork; also ample warehouses for goods and storage of coal convenient to the floating-dock. The hotels for the accommodation of passengers cannot be excelled. At Berehaven all these must be created, but nature has done so much for this harbour that docks to any extent may be constructed at a very moderate expense indeed. This harbour, if once named as a transatlantic packet station, all the other required convenience and accommodation would immediately follow.

8. The price of coal adapted to steam purposes at Cork, from its contiguity to the coal districts in Wales, is considerably cheaper than at Liverpool, where Cunard's Company, it appears, have been paying 21*s.* per ton for their supplies, whereas, hand-picked steam coals can be had in Cork at from 15*s.* to 16*s.* per ton, and very probably a contractor could be got to furnish a large quantity at the former price. The same observation as regards coal, is applicable to Berehaven. The richest copper mines in the United Kingdom are in the immediate neighbourhood of Castletown Bere, and vessels frequently come there in ballast from Swansea for cargoes of ore, the whole produce of those mines being sent to that port for smelting; they would, therefore, prefer taking coal at a nominal freight to paying for ballast. There can he no doubt of the required quantity of coal being had at all times at these ports at a low price for the purpose. A difficulty on this head might arise at Valentia, as return cargoes would he very uncertain from thence, and being more distant from the coal districts of Wales. Tarbert and Galway, where return cargoes are probable, but being supplied with coal from Scotland, the length of the voyage would render the price higher than either at Berehaven or Cork, and could not he procured probably under 18*s.* or 20*s.* a-ton. Native coal, however, has been discovered in the neighbourhood of Valentia as well as at Limerick.

9. There is a railway five miles in length between Passage and Cork, which would take the mails and passengers to the latter place, whence the great Southern and Western line, 166 miles in extent, is open, and communicates with the capital. This would he effected in about five hours. At Cork there is a railway of 20 miles completed to Bandon, which it is intended to extend to Bantry, 35 miles more, in a south-west direction, from which branches could be constructed to communicate with Berehaven, Dunmanus Bay, and Crookhaven; by this line, however, those harbours would be respectively 84, 65, and 70 miles distant from Cork, and 250, 231, and 236 miles from Dublin. The Railway Commissioners of Ireland, in 1838, proposed that there should be only one trunk line between Dublin and the south-west harbours of Ireland, and that Berehaven should communicate with the metropolis, by means of a branch line, to meet the Great Southern and Western

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Replies to Queries. (No. 1.)

Mr. Anthony Marmion.

at Blarney, six miles from Cork. This branch would he 71¼ miles, 18¼, less than by Bantry, Bandon, and Cork, and would be only 231¼ miles from Dnblin. It is evident, however, that a railway can be constructed between this magnificent harhour and the capital in another direction, which would materially shorten the distance and lessen the expense. The Mallow and Killarney Railway Bill was read a second time in the House of Commons on Wednesday, 12th February instant, and that completed, a line could be run from Castletown Bere to meet it between Killarney and Millstrut, and would be about 38 miles long. This short line is all that would be necessary to construct to connect this harbour with the metropolis. The distance hy this route would then be 38 miles to the Killarney and Mallow Railway, 27 miles on that line to Mallow, and from thence to Dublin 145 miles, in all 210 miles, and 21¼ less than by Blarney, and lessening the distance of going round by Bandon and Cork 40 miles even, if the line to the former place was complete. The difficulties on that line would also be avoided at Glengariffe and Adrigoole, as this would be a direct course north-east of Kenmare. Thus, for considerahly less than half a million could this great national ohject be accomplished; indeed, if the Commissioners would only pronounce on Berehaven being the favoured spot, individual enterprise would soon complete this railway without the expenditure of a shilling of public money. The mails and passengers for the south and west of England and for Cork could he dispatched at Mallow, 21 miles from that city, which would be only two miles longer than if there were 64 miles of railway constructed to join the Bandon and Cork line hy way of Bantry, and to Limerick, Waterford, and Kilkenny, &c., near Tipperary, where those lines join the Great Southern and Western. Galway will be, in course of the ensuing summer, connected with the capital hy means of the Midland Great Western Railway, which is now open as far as Mullingar; the whole distance will he then about 120 miles, and Dnhlin could be communicated with in less than four hours. On the arrival of the mails there by either of these lines, those for Belfast and the other manufacturing towns in the north of Ireland, for Glasgow, and the north and west of Scotland, could be dispatched by the Dublin and Belfast Junction Railway, now open to Newry, and in a very short time will be complete throughout to Belfast. There is a despatch every day from Belfast to Glasgow, the passage short, and the merchants and manufacturers there would receive their American letters hy this mode 24 hours sooner than if they were sent by Liverpool or Holyhead, and two days earlier than under the present arrangement.

10. In addition to the information furnished in the answers to the nine preceding queries, I am induced to take advantage of the permission granted by Query 10, to offer a few suggestions, and to state some other facts connected with the subject under consideration, which the nature of the queries, or the space assigned for the answers, did not admit of.

Steam has caused within a few years a wonderful revolntion in time and space, but tho march of mind keeps steady pace with it, and every object that is calculated to accelerate the rapid communication of thought or commercial intelligence and enterprise is sought after with an appetite almost insatiable. It is, therefore, astonishing that the establishment of a transatlantic packet station on the west or south-west coast of Ireland should have been so long delayed. The westerly position of this island, its proximity to the continent of America, its magnificent harbours, which God and nature have formed for naval operations of the greatest magnitude, and which throw wide their capacious arms to embrace particularly the rich commerce of the new world, Ireland should, therefore, not only be the channel of communication for England with America and the West Indies, but also for the northern and central nations of Europe; and when the great undertaking now in contemplation to unite the Pacific with the Atlantic, and divert the rich trade of China and India by that cheaper and more expeditious ronte is accomplished, Ireland would also be the channel through which that vast commerce with the other nations of Europe ought naturally to pass.

In my answers to the preceding queries, it will be seen, that of the eight ports or harbours competing for the establishment of a transatlantic packet station, I consider Berehaven possesses advantages not only superior to them, hut also to Liverpool, Holyhead, or any English port in the Channel for that purpose; and that for general trade and intercourse with America, the West Indies, and the western and southern parts of Europe, there are circumstances in its favour that no port in the United Kingdom can have any pretensions to compete with. Independent of its admirahle position for commerce, it is also well adapted for a harbour of defence. On a recent occasion great anxiety was evinced, and considerable sums expended in strengthening and connecting our naval defences on the east, while England's weakest point, the west coast, convenient as it is to the most formidable arsenals of France, and directly opposite the next great naval power in the world, the United States, which accelerated steam power brings every day in closer contact with it, was never thought of, much less than in taking the necessary steps to fortify this important harhour, it being the most vulnerable point on the south-west or west coast of Ireland, and the very spot where a large fleet would be most likely to run for, two instances of which are recorded in modern history, the first in aid of James II., in his descent on Ireland, and the other in December, 1796, when 16 French ships of war, the remains of that once formidable fleet despatched from Brest for the conquest of that country, came to anchor in the hay off Berehaven. As soon as a railway communication is effected with Mallow, despatches from the Admiralty could reach this station 16 hours after they were transmitted from London, and when the intended electric telegraph is established on the Great Southern and Western Railway, a few hours would he sufficient

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Mr. Anthony Marmion.

to signalize any event of importance; Government should not, therefore, hesitate a moment in taking the necessary measures to constitute Berehaven both a naval depôt and a transatlantic packet station; and while the works are in course of completion, the packet station should he established at Cork, a harbour which, as already shown, possesses immense advantages, and has all those facilities and conveniences for the purpose, without the outlay of a shilling being necessary. Its railway communication being also complete to the capital, gives it a superiority over the other competing ports; indeed, if it was not situated so far to the east, it would he a most desirable port for its permanent establishment.

Independent of the advantages of a transatlantic packet station being established on the south-west or west coast of Ireland, as pointed out in my answer to Query 2, Manchester, and the other manufacturing English towns, would be materially benefited hy shortening the passage across the Atlantic, not only by the communication of earlier intelligence, but also for the transmission expeditiously of valuahle goods, on which the additional charge by railway would be of little importance, and would, in some degree, be neutralized by a reduced freight, which is another of the advantages that would result from goods being shipped at an eligible Irish port. To Glasgow, Belfast, and the manufacturing districts in the north of Ireland, the change would be of vast importance, as it would give the merchants and manufacturers there the advantage of receiving intelligence two days, and render their remittsnces, which are chiefly made by bills on London, four days earlier than at present, nor is the difficulty of obtaining full and efficient cargoes of goods at those ports so apparent as some suppose it to be. All the goods shipped at Liverpool for America are not from the English manufactnring districts: there are no less than six steamers constantly employed by Belfast and Glasgow, principally in carrying the mannfactures of these ports to Liverpool, the greater part of which is shipped from thence to the United States; hnt a great portion, under the new arrangement, would he sent from Belfast hy rail, and shipped at the constituted Irish port. Belfast, and the manufacturing district connected with it, deserves particular notice, some idea may be formed of its importance from the circumstance of there heing now no less than 42 large flax and four cotton spinning-mills at full work in and within 10 miles of that town. One of these (Messrs Mulholland's) employs 1,300 hands; in all there are 17,000 persons employed in spinning, 40,000 in weaving, and the number of females, sewing and figuring light cottons and muslins, is computed by some at 300,000, hut may be fairly estimated at 200,000. The rapid rise and progress of its commerce are as extraordinary as its manufactures, the tonnage of the vessels entering the port of Belfast in 1844 being equal to that of Liverpool in 1812. The same observation applies to first-class passengers, they are not all resident in Liverpool or the manufactnring districts in its neighbourhood; it is only fair to infer that at least two-thirds of those who go to the United States by the Post Office steam-packets are from London and other parts of the empire, many of them foreigners, all of whom would prefer emharking at an Irish port on the Atlantic, and thus escape the perilous navigation of the Channel, and save at least 36 hours in point of time, and he suhject to little or no additional expense. It is calculated that a voyage from Cork, or any of the south-west or western ports named in Query 1, to Halifax, can be effected hy a steamer of the tonnage of those now employed hy Cunard and Co. in the service of the Post Office, for about 600*l.* less than from Liverpool, arising from the difference in price and quantity of coal consumed, lights, harbour-dues, provisions, wages, &c., and the Company should, therefore, give the public the benefit of this saving by a corresponding reduction in the fares of passengers and the freights on merchandise, and they will have then little to apprehend from a diminution of either one or the other.

Probably the most important consideration connected with this subject is the happy change it would be instrumental in effecting in the contiguous districts of the south and west, where the population have been altogether depending on agricultural employment for existence, and that being inadequate to the purpose, scenes of misery and desolation unparalleled in the history of civilized nations in times of peace have been frequently the consequence. Notwithstanding those districts have superior natural advantages over the north of Ireland for manufacturing purposes, and the estahlishing a transatlantic packet-station in one of the proposed ports, would give a stimulus to the present industrial movement, and wonld be instrumental in developing the immense resources of the country, which, if bronght into operation, would soon raise it from its present prostrate state to real independence, prosperity, and contentment.

Admiral Pigot.

My Lorn, *Chieveley, November* 17, 1850.

I have the honour to acknowledge the receipt of your Lordship's letter of the 11th instant, transmitting queries upon points respecting which the Transatlantic Packet Station Commissioners are desirous of obtaining information, and in reply I heg to state that during the time I had the command of the naval force on the Irish station, from May, 1844, to July, 1847, my duties specially confined my services to that part of the harbour and port of Cork, now called Queenstown, and the islands of Haulbowline, Spike, &c.; therefore any opinion I may have, or form, of the ports on the west and south-west coasts of Ireland, can only he gathered from the reports made to me by the officers of Her Majesty's ships then under my orders; and as nnder such circumstances I cannot give facts or confident opinions upon the advantages or disadvantages of the places noted in the

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REPLIES TO QUERIES. (No. 1.)

Admiral Pigot.

margin,* I deem it advisable, with the view of affording information that may be relied upon, to refer your Lordship to the officers named in the enclosed list, who, while in command under my orders, saw much service on the west coast of Ireland, particularly in the winters of 1846 and 1847, in the conveyance of supplies of provisions during the famine.

I would also bring under the notice of your Lordship, and of the Commissioners, a very indefatigable and talented officer, having much experience of the coast from Cork to the Shannon, Lieutenant Church, of the Surveying Service, who assisted materially in surveying the harbour and port of Cork; and I considered him, while I held the command, an officer possessing much sound information upon subjects having reference to the Irish coast.

I had great difficulty in keeping the many steam-vessels under my orders, stationed on the west coast during the Relief Service, supplied with coals, and I was obliged to establish Government depôts at Tarbert, Galway, Westport, Killybegs, &c., and the commercial house of Scott & Co., of Queenstown, undertook to furnish at one period 3,000 tons of Newport coals, which they well performed, and their vessels then proceeded from the several ports with emigrants to America.

Coals for steam purposes were procurable at Cork from 15*s.* to 16*s.* per ton. I had many important repairs and defects in the machinery of Her Majesty's steam-vessels made good by the engineering firm of Lecky & Co., of Cork, and at moderate charges. There is also a dock at Passage.

The steam-vessels of the port of Cork lie alongside the city wharves dry at low water.

The town of Passage, midway between Queenstown and Cork, is the anchorage for large vessels of any considerable burthen; but as the capabilites and resources of this fine and extensive harbour must be well known from its great and increasing trade, and from its excellent outer anchorage rendering it accessible at all times as the port of call for ships of all nations, it will be unnecessary for me to say anything more on the advantages of this port, than to refer your Lordship to Lieutenant Church, whom I consider a very capable person to afford the Commissioners any information they require, professional or otherwise.

I have, &c,

Lord Hobart,
&c., &c.

H. PIGOT,
Vice Admiral.

REPLIES TO QUERIES. (No. 2.)

REPLIES TO QUERIES. (No. 2.)

Messrs. Cunard and Co.

Messrs. Cunard and Co.

1. The value may be estimated at about one hundred thousand pounds per vessel, or say a sum not far short of a million sterling; the number, including vessels built and on stocks, being generally nine. The contract specifies eight, as the number to be kept up.

2. Fine manufactured goods, chiefly from Lancashire and Yorkshire.

3. Very little; in point of fact no cargo is obtainable for these steamers from the United States, even at the sailing-ship rates.

4. Early in October and early in November is the best month in the year for passengers, and the numbers by the four last vessels are as follows:—

October	12,	127	first class, at	£35	each;	19	second class, at	£20 each.
„	19,	46	„	„		30	„	„
„	26,	67	„	„		37	„	„
November	2,	17	„	„		21	„	„

Restriction as to quantity of luggage only nominal. Never got 50*l.* a-year for excess of luggage.

5. The last four packets brought—

September	25,	50	first class, at	£25	each;	23	second class, at	£15 each.
October	2,	33	„	„		3	„	„
„	9,	42	„	„		21	„	„
„	16,	22	„	„		8	„	„

Not aware of a single instance, during upwards of ten years, of passengers paying anything for luggage.

6. The cargo being all fine goods goes by measurement, say 40 cubic feet to the ton, and has varied from 7*l.* to 3*l.* per ton.

7. Since the repeal of the Navigation Laws, foreign goods can be and are shipped by these steamers. Some come by sea to Liverpool, and others by sea to Hull, London, Folkestone, and Southampton. All goods of the finest description from France, Germany, &c., and of limited tonnage.

8. Accompanying this are copies of the manifests of cargo of the last four vessels that sailed from Liverpool. Manifests homeward, none to send, as the cargo homeward does not average 50*l.* a voyage. It is very rarely that specie comes at all; but when it does, it is in very small quantities, and the rate through from New York *viâ* Liverpool to Havre, one-quarter per cent.

* Long Island, Berehaven, Valentia, Tarbert, and Galway.

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Replies to Queries. (No. 2.)

Messrs. Cunard and Co.

9. The average rate per hour performed by each of the last four packets was as follows:—

			Outwards.	Homewards.
September	7	(nautical miles)	12¼	10¼
„	14	„	10	11¼
„	21	„	9¾	11
August	31	„	12	12½

November 2, 1850.

Chas. MacIver.

Messrs. Brown and Shipley.

Messrs. Brown and Shipley.

1. We are not owners of any steam or other packets, in part or in whole, between England and the United States. There are four which come to our address, and a fifth building. These and their machinery are insured for about 126,000*l.*

2. We take out every description of fine goods, principally from our manufacturing districts, some from French manufactories, and from other countries. Tin, iron, and heavy goods, are taken more as ballast than on account of the freight they pay.

3. All descriptions of American produce, flour, &c.; but as it is principally raw material, it will not pay the expense of steam transportation, unaided by passengers and finer goods.

4, 5, and 6. The manifest herewith will show the amount of freight and passage-money received by the American mail steamers, the last four departures from this. Hitherto they have taken no steerage passengers. Full cabin passengers pay 35*l.* We are not nice about the quantity of luggage; half a ton is allowed, if it is not merchandise, in which event it pays freight; but we do not think any passenger was ever asked for luggage strictly so. We charge 7*l.* for measurement goods. Tin, iron, or anything wanted for ballast, is a matter of bargain at the time.

7. Is partly answered in No. 2. Goods come by sea and by land; but we have no means of knowing what quantity comes by any conveyance, as they come through so many hands.

8. In answer to this we send you the manifest.

9. We have not the logs of the ships, and consequently cannot answer this query. We may further say, that we expect the quantity of goods carried will be increased when the freight by these steamers is lowered to 5*l.* per ton, which is contemplated; and it would bring more French and other foreign goods for shipment everywhere, if the Customs would abolish unnecessary restrictions, which merchants consider absurd and most injurious to the trade of this country.

November 22, 1850.

My Lord, *Lloyd's, November* 21, 1850.

I am instructed by the Committee for managing the affairs of Lloyd's, to acquaint your Lordship, in reply to your communication of the 12th instant, on behalf of the Transatlantic Packet Station Commissioners, that they have taken the subject of your letter into their serious consideration; and however desirous of affording such information as may tend to promote the commercial interests of the country, the Committee feel they are not in possession of such intelligence as would justify them in giving any decided answers to the several detailed propositions submitted in your letter.

I have, &c.,

Lord Hobart, &c., &c.,
Board of Trade.

J. W. N. Halsted,
Secretary.

REPLIES TO QUERIES. (No. 3.)

Replies to Queries. (No. 3.)

Capt. Bevis, R.N. (Liverpool).

Capt. Bevis, R.N. (Liverpool.)

My Lord, *Liverpool, November* 14, 1850.

I have the honour to acknowledge the receipt of your Lordship's letter of the 12th, requiring my opinion for the information of the Transatlantic Packet Station Commissioners, upon several points connected therewith, and I beg to answer them in the same order.

1. The distance from Liverpool to Cape Clear, for the present class of North American Packets, with an average speed of 11½ and 12 knots, is under 24 hours' run; and taking into consideration the varying circumstances of arrival, being as often during the night as during the day, together with the necessary transhipment from rail to steamer, and then from steamer to rail, with crossing the Irish Channel, there would in practice be no gain, but in general a loss of time, for both mails and passengers intended for England; earlier intelligence might be obtained by electric telegraph, which would not be acceptable to merchants, all private intelligence of that kind being liable to abuse. The telegraph from Holyhead has never been used by the present contract packets to convey merchants' intelligence, but in two instances, one the Canadian rebellion, the other the Cuban expedition defeated, supposed to be of general interest; but the merchants discouraged a repetition of the practice, because liable to abuse by interested parties.

2. The effect of going to Ireland would be to increase the expense to Government very

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Replies to Queries. (No. 3.)

materially, because it would increase the expense to passengers, and so lessen the number; the same remark applies to freight in goods.

Capt. Bevis, R. N. (Liverpool.)

3. Few passengers, except those *from Ireland*, would avail themselves of the new route whilst there was a ship going from Liverpool to take them; even passengers from Dublin and Belfast would find it more convenient, and less expensive, to join the steamer at Liverpool; the same remark applies with greater force to goods, which would all be shipped here.

4. With efficient vessels, as the present North American packets are, touching at any port in Ireland, would be found in practice a loss, rather than a gain of time, where the necessity for taking in coals, or other advantageous cause for stopping, *does not exist.*

5. The Cove of Cork, if any.

6. The adoption of a port in Ireland, as a touching or stopping place for the North American Contract Ships, would divert passengers and goods (almost entirely) to the competing lines of steamers running from New York to Liverpool *and to Havre*, and would call into existence additional competition. At the present time, I observe notice has been given of a material reduction in the rate of freights, to take place on the 1st of April next, owing to competition of the United States contract packets.

7. Cannot correctly answer, but the North American Packets, from their size and great power—800 horses, some of them—are a very expensive class. There has been a great increase in size and power of these vessels, to meet the competition of the American Contract Packets.

I have thus, my Lord, answered to the best of my judgment and experience the several questions put to me, but more especially having reference to the packets under my superintendence.

I have, &c.,
THOMAS BEVIS,
Commander.

The Lord Hobart, &c., &c., Board of Trade.

Chamber of Commerce, Liverpool.

Chamber of Commerce, Liverpool.

HONOURABLE SIRS, *November* 18, 1850.

I HAVE the honour to acknowledge receipt of your communication of 12th instant, desiring the opinion of this Chamber on several points touching the expediency of establishing the Transatlantic Mail Station at some port on the west or south coast of Ireland.

In compliance with your desire, a special meeting of the Council of this Chamber has been held, and the conclusions unanimously come to on your questions considered *seriatim*, are embodied in the following answers:—

1 (*a*). There might be the gain of a few hours (contingent on the state of the weather) in the transmission of telegraphic intelligence, but with respect to mails and passengers, the probability of any gain of time is very questionable.

1 (*b*). The expense to all parties interested would be much increased.

2. The contract price to Government would probably have to be increased by 50,000*l.* per annum, without any reduction of present rates of passage money and freight.

3. The facilities and advantages for passengers and transport of goods would be diminished, and undoubtedly there would be a reduced number of passengers of the first class.

4. Very little advantage would accrue, whereas the passages would be lengthened, and the risk increased. Touching for the purpose of coaling is not required, as all the mail packets carry more than sufficient for their average time of performance.

5. Cork, or one of the harbours near thereto.

6. The adoption of such a port would certainly have the effect of diverting many goods and passengers to the competing lines of steamers, and would tend to stimulate the institution of new lines.

7. Judging from the very general data which are accessible to the Council, the receipts of the largest class of steam-vessels now engaged in the transatlantic service, should amount to 6000*l.* and 8000*l.* per voyage out and home (exclusive of the Government allowance), in order to pay all expense of steaming, agency, advertisements, and commissions, to compensate for wear and tear and deterioration, and to yield interest at 5 per cent. per annum on the capital engaged.

I have, &c.,
THOMAS B. HORSFALL,
President.

To the Transatlantic Packet Station Commissioners, Board of Trade.

Mr. Jonathan Aylen.

Mr. Jonathan Aylen.

1. I beg to state, that I commanded Her Majesty's Steamer "Alban" from October 1845 to July 1846, and Her Majesty's Steamer "Rhadamanthus" from July 1846 to February 1849, during which time I was actively employed principally between Cove of Cork, Bantry Bay, Dingle Bay, River Shannon, Galway Bay, and Waterford.

1. (*a.*) Gain of time of a few hours.

1. (*b.*) More expense to the several parties.

2. The contract price with the Government for the conveyance of mails would be increased, viz., from London to Holyhead, then to Dublin, and from thence to the place of departure.

Again, in my opinion, very trifling reduction (if any) in the rates for passage and freights.

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Mr. Jonathan Aylen.

3. The transport of heavy goods would be reduced; but, in my opinion, where a few hours is an object, merchants with light goods or baggage would avail themselves of the new route, supposing Ireland to be in a *quiet* state.

4. I do not think it advisable to establish entirely a packet-station in any port in Ireland. A few hours would be saved by the packet taking her departure from Ireland, and landing her mails; could also coal with expedition.

5. For this number I think it advisable to send notes from my Remark Book.

6. My opinion is, that passengers and goods would be attracted to the competing lines of steamers running from New York to Liverpool and Havre, and that the income of the contract mail lines would be much reduced.

7. Cannot answer this question.

Sir,

I beg leave to send you my opinion as to which is the best port for a packet station on the south and west coast of Ireland. I have frequently heard this subject discussed, and have had my attention principally called to *five* of the Irish ports, viz., Berehaven, Valentia, the River Shannon, Galway, and Queenstown; and I do not know of any so likely to answer the intended purpose as one of these, I will therefore, with your permission, confine my remarks to these five, and will most respectfully beg to lay before you my candid opinion of the relative value of each:—

1. *Berehaven, Bantry Bay.*—This port is exceedingly difficult to make in consequence of the prevalence of misty and foggy weather, and the sameness in the appearance of the land. I think, however, the entry into Bantry Bay would be rendered much more easy if a light were placed on the Bull Rock.

2. *Valentia.*—Much has been said of the advantages of this port, but with all due difference for the opinions of some very able persons who are favourable to it, I must, after considerable experience on this coast, speak most decidedly against its being chosen for a packet station; for I think it a most dangerous port to run for in a gale, and therefore quite unfitted for a packet station or a harbour of refuge. In fine weather it is all very well, but in a heavy sea (which you always have on this coast half-an-hour after the wind freshens), the entrance to Valentia is so narrow as to be quite unfit for a large ship or steamer. There is a rock two-thirds of the distance from the lighthouse, and between it and the opposite point, so that a vessel must keep close over to the lighthouse point, which is a bad shelving rock, with a constant heavy swell, even in fine weather; and attempting this narrow passage in bad weather, were a heavy sea to strike a ship, or were she to yaw in the slightest degree, she must go on shore, and to do so would be instant destruction. Once you are inside the harbour is very good; but I do not think any person, if he had a choice, would be justified in running for so narrow and dangerous an entrance in bad weather as that of Valentia harbour.

3. *River Shannon.*—This port may be run for in perfect safety as the entrance is wide and clear, and the soundings shoal gradually in to opposite Kilcadrane Point; and in thick weather, if unwilling to run, can anchor either in Carrigaholt Bay or in Scattery Roads. Tarbert, I think, is the best station for a railway terminus. If I take a point in the Atlantic, in the true course from America, from which to measure the time it would take to reach Dublin, the one steamer going to Valentia, and the other by the Shannon, I find by completing the *railway* from *Limerick* to *Tarbert*, I can be there within one hour as soon as it would take to reach the same place by Valentia; and, in the one case, I have only a small piece of *railway* to *complete* going through Limerick, one of the largest trading towns in Ireland; and in the other I have more than *four times* as much to make through one of the *wildest* and less frequented parts of the kingdom. With respect to the anchorage at Tarbert, which has been objected to, I have not observed it to be at all a bad one, nor do I think the race at Tarbert a serious objection to its becoming a flourishing port. Docks might easily be constructed there, and vessels drawing 14 feet can go up to Limerick and there be refitted or repaired. Docks on a large scale are now in course of construction at Limerick to meet the requirements of the existing trade, and I can scarcely think that the gaining of an hour or two in a voyage to Dublin would, in a national point of view, counterbalance the immense advantages of the River Shannon over Valentia harbour. However, in speaking of this south-west coast of Ireland, I beg leave to remark, that a light is wanted on the Forze Rock, near the Blaskets; in no place in Ireland do I think one so necessary. It would not, in my opinion, be difficult to erect, and would be very beneficial to those bound to or from the River Shannon.

4. *Galway.*—There is a continual swell setting in the dangerous bay of Galway; and in a gale from the south to the W.S.W. there is not a safe anchorage in the bay. It is, therefore, quite unfit for a station of the kind I am speaking of, and is far inferior to either Berehaven or Valentia.

5. *Queenstown* (Cove of Cork).—I consider the *best port in Ireland* for a transatlantic packet station, if one should be required, being one of the finest harbours in the world.

With a railway from Passage to Cork, and from thence to Dublin, calculating the speed in steamers to be 10 knots per hour, passages would be made as follows.—

		Days.	Hours.
From New York to Tarbert, in Shannon	. .	10	21
,, Galway ,,	. .	11	0
,, Queenstown ,,	. .	11	4
,, Liverpool ,,	. .	12	0
,, Holyhead ,,	. .	11	18
,, Plymouth ,,	. .	11	16

Jonathan Aylen,
Master-Attendant, Sheerness Dock-yard.

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REPLIES TO QUERIES. (No. 3.)

Mayor and Corporation of Limerick.

Mayor and Corporation of Limerick.

[*Limerick, November* 21, 1850.

MY LORD,

YOUR letter of the 12th instant, addressed to the Corporation of Limerick, handing certain queries relating to the establishment of a Transatlantic Packet Station on the west coast of Ireland, having been referred to the special committee appointed in this matter, I have now the honour to transmit your Lordship the replies adopted thereto.

In replying to these queries the Committee found it necessary to assume for their calculation some particular port, and for this purpose they take the Shannon,—which they are prepared to show presents for this object, natural capabilities, facilities for intercourse, and local advantages, superior to any other port on the west coast of Ireland.

1. It is considered that for mails and passengers there would be a saving of time as follows:—*Overland.* The distance from the 12th degree of west longitude to the Blaskets at the Shannon's mouth, is 55 miles, and, at 11 miles per hour, gives 5 hours.

	Hrs.	Min.
From the Blaskets to Foynes Harbour, in the Shannon, 72 miles, and being in the smooth water of the river course, may be rated at 15 miles	4	48
From Foynes to Dublin per steam and railway	5	0
Dublin to Kingstown and Holyhead	5	0
Holyhead to London	9	0
Delays	1	12
	30	0

	Hrs.
Channel Voyage.—From the 12th degree of west longitude to Cape Clear, 100 miles, at 11 miles per hour	9
Cape Clear to Liverpool, 330 miles, at 8 miles per hour	41
Liverpool to London	7
Delays (chiefly at Liverpool)	1
	58
Saving of time for mails and passengers	28

Equal to 1 day 4 hours, or to 2 days and 8 hours on the double voyage in and out.

	Hrs.	Min.
For telegraphic intelligence, say the two first items of the overland route as above	9	48
Delays	0	30
	10	18

	Hrs.	Min.
Against the whole distance by the coast and channel voyage to Liverpool as before	50	0
Delays (chiefly at Liverpool)	0	45
	50	45
Saving of time in telegraphic intelligence	40	27

Equal to 1 day 16½ hours, or 3 days 9 hours in and out.

The same figures will show that it is quite practicable to have arrangements made to telegraph vessels at the mouth of the Shannon from the 10½th degree of west longitude, which would give intelligence in London 45 hours sooner than the mail would reach London by the present route, equal to 2 days nearly, or 4 days in and out: and it would be needless to dwell on the importance of such accelerated intelligence to the Government and to the commercial communities at both sides of the Atlantic.

As regards the expense by the short sea route as compared with that by long sea,—by a careful calculation it has been ascertained that, taking into account the saving of fuel, working of the vessel, port charges, wear and tear, insurance, and diminution of investment, there will be a saving to the shipowner of about 18 per cent,—with a saving of 10 per cent. to the passenger, after covering the expense of his overland journey; and it is considered, on calculation, that there will be an annual saving to all interests in the performance of this service of at least 150,000*l.*

2. It is obvious that the saving to Government in conveyance of the mails will be in proportion to the diminished expense of the packet establishment, as shown in reply No. 1, which may be calculated to be at least 25 per cent. on amount of present expenses.

3. The facilities and advantages to passengers would (as already shown in reply to query No. 1) manifestly be increased, and the well-known antipathy to the sea amongst almost all people, together with the superior quickness and safety of transit, would always ensure a preference for the short sea route, especially with the better class of passengers. The Government inquiry of last session in the case of the Boulogne and Calais routes, appears to this Committee a case in point to illustrate this argument, where even in this short sea trip the Calais route has been chosen, although involving an increased travelling distance of 65 miles on the whole route, being nearly double the distance to the point of convergence at Amiens;

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besides a corresponding addition to the expense of travelling; and all this sacrifice made to avoid only 5 additional miles of sea voyage, and a short distance of coast-sailing approaching Boulogne

As regards *goods* it is considered that the facility and security of transit would ensure a large amount of traffic in light and valuable goods, which almost exclusively constitute those transmitted by the Atlantic steamers and liners, and there are various grounds for believing that the charges for their transmission would be lower than at present.

4. This Committee are not aware upon what grounds it is expected that any advantage would result from establishing a port of call on any part of the coast of Ireland, which must necessarily be on the south coast. On the contrary, it is obvious that there would be little or no diminution in point of distance by the overland route for mails and passengers, and all the risks and dangers to the vessel of the channel and coast voyage (which at all times form such serious ground for apprehension) would be multiplied; for, at present, after the outward-bound vessel leaves the Tuskar, she may, if the weather be thick or hazy, steer more southerly, get an offing, and proceed boldly on her voyage; whilst, if obliged to call at an intermediate port, she must still keep along the coast at a slack speed, increasing danger, and frequently delayed before succeeding in making the port, after which adverse winds might considerably retard her progress outwards, and the coast dangers would be prolonged. Thus continued uncertainty and positive delay arise in regard to the time of the vessel's arrival at the port of call to take in the mails and passengers, involving increased expense and insurance, and resulting in constant vexatious disappointments, with no certainty of advantage being gained in the transmission of either mails or passengers.

And these objections also apply to the case of a homeward-bound vessel obliged to call at a port on the south coast. In short, a port of call would appear to defeat all the objects looked forward to by the British and American public in taking advantage of the facilities afforded by the geographical position of the west coast of Ireland for transatlantic communication, while it would entail great public expense. There ought not to be a possibility of contingent disappointment in a communication involving such various and wide-spread interests, and so likely to become the thoroughfare between the eastern and western worlds. Every precaution should be adopted to render the conveyance certain and expeditious, instead of exposing it to the continued uncertainties and constant disappointments pointed out, and the growing requirements for the accelerated transmission of mails, passengers, and intelligence, appears to leave no alternative between a continuance of the existing arrangements, and the establishment of a packet station on the west coast of Ireland, from which such important advantages would be derived.

5. The question of a port of call having been disposed of in the reply to query No. 4, this Committee are fully persuaded that the Shannon is the most eligible port that can be selected, as already detailed in a statement forwarded to your Commission, dated 14th instant.

6. It is considered that whatever competition may exist between Liverpool and Havre, so similarly circumstanced as to time and distance for the transatlantic voyage, all apprehension of rivalry would be entirely removed by the acceleration of the communication, the diminution of the sea voyage, and the absence of coast and channel dangers, that would be secured by the adoption of the Shannon as the western port.

It is accordingly considered that these advantages would have the effect of drawing all the Continental traffic and mails through Great Britain and Ireland, and would also result in reducing the charges for the transmission of all mails, passengers, &c., between Great Britain and America.

Besides, it should be borne in mind that the various advantages in the communication, *viâ* Ireland and Halifax, would so much exceed those by any other route, that all foreign competition must sink before it; in which case, it is clear that all the Continental traffic and mails would have a considerable tendency to flow in this direction, and there would be no rivalry to apprehend, but except such as would most probably arise by the Americans adopting the Shannon as the port for their steamers, in case the inexpedient and ineffective measure of a port of call were to be adopted by our Government, or the important advantages to be derived from establishing a western packet station overlooked.

7. The Committee feel some reluctance in replying to this query, being only partially informed as to the expenses and receipts of the transatlantic steamers, but it is considered that about 3,800*l.* per trip for passengers, mails, and goods, would be a remunerative receipt.

Having thus replied to the queries of the Commission to the best of their opinion and judgment, the Committee will be happy more fully to explain their views if allowed opportunity to do so by oral evidence, and they at the same time request permission to observe, that this question, involving such extended national, European, and almost universal interests, should not be regarded too narrowly with reference to the consideration of expense, even if such were found to be unfavourable, which cannot be shown; but the Commissioners should rather take into account that the increasing intelligence and requirements of the age will ere long inevitably demand the adoption of the most direct and expeditious line of communication between Europe and America; and that it may be found impolitic to leave to other, perhaps foreign interests, the adoption of a measure that should be originated by the enlightened policy of the British Government.

I have the honour to be, my Lord,
Your obedient servant,

LAW. QUINLIVAN,
Mayor and Chairman.

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REPLIES TO QUERIES. (No. 3.)

Midland Great Western Railway of Ireland.

Mr. Beausire.

Midland Great Western Railway of Ireland, Dublin, 29th Nov., 1850.

MY LORD,

I HAVE been directed by our Board to acknowledge the receipt of your Lordship's communication of the 19th inst., and to submit the following replies to the queries asked:—

1. The average time between London and New York, *viâ* Liverpool, we assume to be at least 11 days. The gain of time, therefore, would be as follows, viz.:—

	Days.	Hours.
London to Galway, *viâ* Holybead	0	18
Galway to Halifax	5	0
Halifax to New York	2	0
	7	18

Saving three days 6 hours.

On completion of the European and North American Railway, now in progress of construction from New York to Cape Canso, the time will be further reduced about one day more; and in the transmission of intelligence by electric telegraph, the saving of time will be much greater, say—

	Days.	Hours.
By electric telegraph—London to Holyhead, thence to Galway	0	5
By steamer—Galway to Halifax	5	0
By telegraph—Halifax to New York . . .	0	1
	5	6
Saving by this mode	5	18
	11	0

2. The contract price for conveyance of the mails will probably be about the same as at present; more powerful and swift boats will be required, carrying less cargo of goods—but, on the other hand, they will be a shorter time at sea; the saving of time to passengers, and consequent decrease of expense at sea, will be items of decrease in the cost.

3. The rates of passage-money, we think, may be less than at present charged, particularly for the humbler class of passengers, who are scarcely accommodated at all by the present steamers. The large emigration from the United Kingdom, and particularly from Ireland, will afford a full supply of second and third-class passengers; and these may be carried at rates which will command at all times as many of them as the steamers can accommodate, so that we would not calculate on taking any goods, with the exception of valuable packages and parcels, of such descriptions as could bear to pay a good price for the despatch.

4. It appears to us that the advantages to be obtained by the establishment of a packet station on the west coast of Ireland are so manifest, that it is certain to be effected by some party or other. The fact of its affording the shortest sea route decides the point, that the communication can be accomplished in the shortest time; and, by telegraphic communication, it may be done in about one-half the present time. Adopting a port at which packets should call and coal, would not answer any good purpose for the conveyance of mails and passengers, as it would be attended with an amount of delay and additional risk in navigation, which would neutralize any advantages that could be anticipated from such arrangements; and we are therefore of opinion this view of the subject may be altogether dismissed.

5. Galway appears decidedly the most eligible port for the packet station, for the reasons set forth in the Report of Mr. Hemans to the Board of Directors of this Company, a copy of which we beg to hand herewith.

6. We are of opinion that the quicker speed of communication will secure the conveyance of the mails, &c., and also of a very large portion of the passengers; and that the effect will be to bring a great number of letters and passengers by the new route for transmission to all parts of Europe.

7. Can be better answered by parties having experience in the working of sea-going steamers.

The proceedings now in progress in America, prove that the people there are quite alive to the value of the shortest sea line of communication, and clearly indicate that it is important the British Government should at once take steps to secure the possession of the advantages which can be effected by it.

I have, &c.,

H. BEAUSIRE,
Secretary.

The Right Hon. the Lord Hobart, &c. &c.

Galway Committee.

Galway Committee.

1. The gain of time for mails and passengers by establishing the Mail Transatlantic Packet Station at Galway, on the west coast of Ireland, stands thus:—

The distance from Galway to Halifax, in Nova Scotia, is about 2090 miles; from Halifax, by Boston, to New York, about 800 miles. By a proper steamer this passage may be effected in seven days at most; mails and passengers may thus land in Galway and be transported

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hy the Great Western Railway to Dublin in four hours; from Dublin to Holyhead in three hours and a half; from Holyhead to Liverpool in three hours, and from Holyhead to London in seven hours: making in all seven days ten hours and a half to Liverpool, or seven days fourteen hours and a half to London.

By this same route, intelligence may he transmitted from New York to Liverpool in seven days three hours and forty-four minutes, and to London in seven days three hours and fifty-two minutes. This cannot he effected by any other route, and thus, even under existing circumstances, the route from New York *viâ* Galway to Liverpool or London, saves more than two days for mails, passengers, and intelligence. Because a hoat of greater power may be put on the Galway station, owing to the shorter transit; her cargo of coals will he less, her displacement less; her huild, of course, more calculated for speed, and all danger and obstructions of channel navigation avoided. Section B. We understand hy "the parties concerned," the proprietors of steam-ships, and contractors for the carriage of mails, the Government, merchants, and passengers. These four classes of interests would he benefited hy the establishment of a station at Galway, that is, supposing no existing contract to stand in the way of its adoption. Proprietors of steam-vessels and contractors will have less outlay in Galway, from their requiring fewer boats for the shorter transit; less coaling, cheaper labour, more safety, and more passenger trade, owing to the inducement of the less sea voyage.

The Government will ultimately save on the contracts; the postal revenue will he considerably increased from the greater facility of communication; the cost of insurance will he considerahly lessened, and passengers will be taken at a cheaper rate.

2. Is chiefly involved in the preceding one, for it is manifest, from the reply to Query No. 1, that the shortness of the route from Galway, the security its unrivalled harbour affords, the saving of coals and other expenses to a steamer, would produce a corresponding reduction in the rate of carrying mails as well as passengers.

3. The reduction of time to he effected by the adoption of Galway is so great, and its safety so evident, that it at once demonstrates that passengers from every part of Ireland, England, and Scotland, nay, of Europe, would prefer it to Liverpool or the south of Ireland. It is an axiom in travelling, that the less sea the better, hence all would choose Galway route across the Atlantic; besides the difference of expense would he considerable, the saving would be at least one-third.

4. If the Commissioners consider the interests of trade, and the importance of giving it a stimulous in England, they will not doubt for an instant the advisability "of establishing entirely a packet station." As to a port of call for the mail packets, we should only regard such a measure as an evil, which would divide the unanimous claim of Ireland to the establishment entirely of a packet station in that country, and to recommend to the Commissioners the consideration of the lucid letter on this subject of the Messrs. Kennedy, of Belfast, which we append. Such a measure would deprive the mercantile world of the benefit of that superior class of vessels which the shorter transit from Galway would create to effect quick communication.

5. That Galway is that port, is the unanimous opinion both of Americe, the north of Ireland, and all disinterested observers in England, and we are prepared with undouhted evidence to prove it hefore your Commission.

6. From the preceding facts it must appear, that the adoption of the port of Galway as the terminus of the voyages of the mail packets, instead of diverting passengers and goods from the competing lines of steamers running frem New York to Liverpool and to Havre, or materially affecting the income of the mail line, supposing it to he Galway, or calling into existence any additional competition, it would rather have the effect, for the reasons already adduced, of attracting passengers decidedly, and great portions of goods, on account of its shortness and security. [See the letter of the Messrs. Kennedy.]

7. Does not seem to require an answer from us.

These replies contemplate only the existing state of the route from New York, but how vastly inviting to passengers, and how infinitely valuable for intelligence, mails, and goods of the lighter class, would the Galway route be, when the proposed railway from New York, now in progress, to Cape Canso or Halifax, shall be completed, reducing the voyage of steamers to five days, and giving railway communication from the terminus in Nova Scotia to New York, 850 miles in 30 hours, as well as electric telegraphic transmission of news from New York to London in five days four hours and 52 minutes.

Dear Sir, *Belfast, December* 5, 1850.

We consider, with you, that the establishment of a packet station in Galway will he of incalculable benefit to Ireland, and in nowise injure England, even were their interests not bound up together.

You perhaps are aware that, since the great increase of steam navigation, the trade of these countries has materially changed. A few years ago, only a few foreign houses imported our manufactures, and supplied the countries in which they were located; at present we have the customers of these houses, buyers, from every cornsr of the world, coming over here to huy their goods direct, and save the intermediate profit.

We had generally to consign our goods to these large houses, who got their commissions, whether or not the manufacturer received his profit. We had to place all our property in their hands; few of them were practically acquainted with goods, and hence a very large proportion of our manufacturers were ruined.

Now, however, the consumer and the producer are coming more immediately into contact;

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Replies to Queries. (No. 3.)

the interchange of ideas has increased our knowledge of their wants, and greatly improved our fabrics and styles. These houses buy out and out, giving us cash or banker's bill in payment; the trade being, therefore, based upon legitimate principles, is sound, healthy, and prosperous.

Twenty years ago, nine-tenths of all the linens imported by Mexico, the South American, some of the West India Islands, and a considerable part of those received in the United States, were made in France, Germany, and some heavy styles in Russia; now we have almost the total supplying of these markets. In the cotton trade, in which we are engaged, there were only 10,700 weavers in 1825, now there are nearly 40,000, and more are required. The sewed branch formerly occupied only a few hundred women; now, it is said, upwards of 300,000 are engaged. In the two latter descriptions we surpass the French and Swiss, we are beating them out of the field, and are getting considerable orders from the Continent. In Spain we have an agent ourselves, and several of our Belfast houses have agents or branches of their establishments all over Europe. The King of Prussia has had agents buying looms in England, and he has had young men in Belfast learning manufacturing and bleaching. The Government owned the larger part of the factories and bleach greens there, and sold their goods at a considerable loss, and of course taxed the nation with a view of recovering their lost ground; now, however, the practice is going to be discontinued, owing to the clamour of the people of its injustice. Spain has modified her tariff, and allowed the introduction of our goods; whilst by letter to day, we find that the Belgian Government has given notice, that after the 1st of January the drawback of 15 per cent., formerly allowed on all manufactures exported, will be withdrawn.

We wish to see our countrymen taking advantage of all these opportunities, so consolidating our trade, and bringing it up to perfection, that we need not fear foreign opposition and interference; but at present we labour under serious disadvantages.

1st. Foreign merchants go direct to England and Scotland, where they make the large bulk of their purchases; then they proceed to France, Belgium, Switzerland, and Germany, for some of their fancy articles. On their return, their time of departure is at hand, they send over their orders, so that we have not the advantage of showing them what we are doing, of pushing our business, or improving upon their taste. We may mention as a fact, that for this reason we have never seen some of our largest customers, and we know the houses in the linen trade are similarly situated; but if passengers were landed in Galway, they would be in Dublin in a few hours; after seeing the manufactures there, they could come down here, make their purchases, and be in England as soon as by going round the Cape. From the west, buyers from North and South America, and the West Indies, are weekly arriving; they would distribute a large sum annually in visiting the beautiful scenery of the south and west, besides increasing and extending commerce and trade over the country.

2nd. The payment we get for our goods is in bills of exchange at 60 days' sight, drawn upon English houses; to bring these bills from England requires two days, to send them back for acceptance requires two days more, so that we lose at least four days' interest upon our sales, which on the gross is rather a smart tax.

Then, again, we often get orders for goods by one packet to be shipped by the succeeding one, or we have letters of importance to reply to. We can scarcely ever obey our instructions, whilst the English and Scotch manufacturer has all the advantage. Every person engaged in the foreign trade knows the importance, the necessity of getting goods out at a particular season; but if letters were delivered in Galway, they would reach the English, Scotch, and north of Ireland merchants about the same time; all would be placed upon an equal footing, all benefited, for our friends on the other side of the channel would get their letters nearly a day sooner than at present.

We believe the Government are disposed to do us justice, if the case is plainly put before them. We are sure Lord Clarendon is most anxious to promote the interests of Ireland, the comfort and the good of her people. Here, in the north, we have from experience a high opinion of British probity and justice; and believing that a measure of this kind is for the good of all, the injury of none, we sincerely hope you will be successful in your application.

We are, &c.,

Rev. Mr. Daly. J. and J. Kennedy.

We have an old and intimate friend, Mr. Alexander Henry, M.P. for South Lancashire, we are sure he would assist you in your application. His address is Belgrave-square, London. His head quarters are in Manchester, where he stands at the top of the trade. He has a firm in Belfast, and is an Irishman by birth and feeling.

Chamber of Commerce, Belfast.

Chamber of Commerce, Belfast.

1. This Chamber are of opinion that the establishment of a Transatlantic Station on the west or south coast of Ireland, combined with railway communication throughout, would, as regards Belfast, be a certain gain of two days, and very often of three, in the delivery and despatch of the mails, and also the same time gained by passengers.

That the short sea voyage would considerably reduce the cost to the several parties, and should also reduce the charge for passage.

2. That this Chamber has not sufficient data to form correct calculations in reply to this query.

3. That most passengers would prefer the short sea voyage, but the advantage for the

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transport of goods would depend very much on the facilities given by railway companies, &c., for transmission to the port of departure.

4 and 5. In the event of the not establishing a packet station in Ireland, and substituting a port of call, Cove of Cork, now Queenstown, is the most suitable port in Ireland.

Chamber of Commerce, Belfast.

6. The channel risk being avoided, which this Chamber consider an important consideration, both as regards goods and passengers, there would be so far an advantage to a station in Ireland; but the effect as regards competition would depend on so many circumstances, that it could only be ascertained by actual experiment.

7. The Chamber cannot answer this question.

Chamber of Commerce, Glasgow.

Chamber of Commerce, Glasgow.

1. The effect of the proposed measure would be to shorten the actual distance sailed by the packet from land to land, and to save, though in a much less proportion, the time occupied in the transmission of the mails.

The expense to all the parties and interests concerned would be greatly increased.

2. Any appreciable reduction of the rates for freight and passage would be effectually checked by the competition of the American packets sailing direct from Liverpool.

The contract price with the Government for carrying the mails would have to be increased, to compensate for the loss of the passenger and goods traffic, the largest portion of which would be diverted to the direct American packets.

3. The facilities and advantages to passengers would be greatly diminished by the additional fatigue, discomfort, and inconvenience of the journey, including the passage of the Channel to the port of departure; and for the transport of goods, by the additional freight and insurance to the proposed port of departure, the uncertainty of arrival there in time for the sailing of the packet, and the risks of damage in transhipment.

It is improbable that any class of merchants would avail themselves of the new route so long as the American packets continue to sail direct from Liverpool.

4. Unless obliged to call for the purpose of receiving and landing the mails, there can be no inducement for the packets to touch at any port on the west coast of Ireland; on the contrary, it is well known that from the nature of the coast, the prevailing weather during many months, and the want of safe harbours, the packets would often find it unsafe to approach the land; and as the packets carry a supply of coals more than sufficient for the whole voyage, they have no occasion to touch anywhere for the purpose of coaling.

5. Requires no answer.

6. There are the strongest grounds for believing that the adoption of a port in Ireland, as the terminus of the voyages of the mail packets, would divert nearly the whole passenger and goods trade to the American packets between Liverpool and New York, and that the income of the contract line would be so affected, that no Company could carry it on without a great increase of the contract price.

7. The Directors are unable to answer this question.

The Directors desire to express in the strongest manner their opinion, that the removal of the Transatlantic Packet Station to a port on the west coast of Ireland would inflict an injury on the trade of England and Scotland, without conferring any corresponding benefit on Ireland; and that the adoption of such a scheme would throw nearly the whole trade into the American packets.

Chamber of Commerce and Manufactures.

Chamber of Commerce and Manufactures, Manchester.

MY LORD, *Manchester, January* 14, 1851.

THE queries contained in your communication of the 12th of November were duly laid before the Directors of this Chamber on the 14th of that month; but hesitating, as they always do, about giving an opinion on matters which do not fall within the range of their constant experience, the Board felt that the answers which they would be compelled to give to the greater portion of those queries would not assist the Honourable the Transatlantic Packet Station Commissioners in the practical information which they were so properly seeking.

This Board feels itself to be incompetent to express any opinion upon points which refer to the cost and management of sea-going vessels, and therefore abstains from making any remarks upon the probable rates for passages and freights in the event of the packet stations being transferred to any port in Ireland; but there is a general view of the question on which they dare venture to express their sentiments.

There is no doubt on the minds of the Directors of this Chamber, that the disadvantages which would arise from the transfer of the packet station to, or even requiring the packets to call, for any purpose, at any port in Ireland, would very greatly outweigh any advantage that could be derived from such a measure. In truth, the only use which, in a commercial point of view, would be made of such a change would be to establish, through the electric telegraph, a priority of information in favour of a few individuals, perhaps of one firm, to the detriment of the general trade, and to the disturbance of the markets both before the sailing and in anticipation of the return of the packets. This Board cannot anticipate that passengers would submit to two embarkations and the additional cost of a journey through Ireland on their outward passage, and on their return they would not choose, after having overcome the annoyances of the early portion of a sea voyage, and with the necessity of a new embarkation

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REPLIES TO QUERIES. (No. 3)

Chamber of Commerce and Manufactures, Manchester.

before them, to leave the packet in Ireland; still less would goods be landed there. This Board, therefore, entertains a strong opinion, that if the packet station were transferred to Ireland, the packets would have little else than letters to carry, even if they could be preserved to them, and that, consequently, a very considerable addition would have to be made to the contract price allowed by Government for the working of the vessels; passengers and goods would certainly both be transferred to the competing American steamers.

This Board is unhesitatingly adverse to the change foreshadowed in the queries put in yours of the 12th of November. It would have rejoiced had the manufacturing capabilities of Ireland been so far developed, and her commercial interests attained such a point of comparison with those of this country, as to make the propriety of the change now under review, of any, the least, doubt; but, under existing circumstances, there is not anything to compensate for the inconvenience and loss which that change would now involve.

Not knowing to what other points the attention of the Transatlantic Packet Station Commissioners will be directed, I am to express the opinion of this Board, that it is well worth their serious consideration, whether the largest interests of the country be duly served by the retention of Southampton as a packet station. The great bulk of the manufacturing industry of the kingdom suffers the delay of, at least, one day, and frequently of two days, in the receipt of their correspondence by making Southampton their landing port, whilst the metropolis would be as promptly served by changing the station to Plymouth or Liverpool.

I have, &c.,

To the Right Hon. the Lord Hobart, Board of Trade, London.

THOS. BOOTHMAN, *Secretary.*

Mayor of Cork.

MY LORD, *Cork, December* 19, 1850.

I HAVE the honour to acknowledge the receipt of your Lordship's letter of the 12th inst., submitting, for the consideration of the Joint Committee appointed by the Town Council, Harbour Board, and Committee of Merchants of this city, sundry queries in reference to the establishment of a Transatlantic Packet Station in Ireland; to which, on their behalf, I beg leave to return the following replies.

1. After a careful investigation of the material points connected with this query, I am compelled to admit that, although no loss of time would occur, yet no practical saving could be effected, in the transmission of passengers or mails, by transferring the Transatlantic Packet Station from Liverpool to a western port in Ireland. The majority of the passengers by the transatlantic steamers are destined for England, Scotland, or the North of Europe; and, as their shortest route from a western port to their place of destination would necessarily be by railway (supposing such means of communication existed) to Dublin, and thence by mail packet to Liverpool, it is obvious, if due allowance be made for the time actually spent in travelling, for the delays in changing from one mode of conveyance to another, and especially in waiting for the departure of the ordinary trains and packets (as the traffic could hardly justify the cost of special conveyances), that passengers could not accomplish the journey under an average of 24 hours; and this interval of time is found, in practice, to be amply sufficient to enable a first-class steamer to proceed directly by sea to Liverpool, from the most westerly and southern points of Ireland. For similar reasons, no saving of time could be effected in the transmission of the mails.

With respect to goods I have reason to apprehend that their frequent lading and unlading, together with the necessity of forwarding such bulky articles by the slow goods-trains, and merchant steamers, would occasion some loss of time and render their transmission through a western port in Ireland less expeditious than by the present sea-route from Liverpool. By the selection, however, of the southern port of Cork as the packet station, although, for the reasons above enumerated, no saving of time could be gained in the transmission of the traffic directed to the North of England or Scotland; still a considerable saving of time may thereby be obtained in forwarding passengers, mails or light goods, intended for the Southern and Midland Counties of England, France, and the North of Europe.

Of all the ports in Ireland, Cork, from its geographical position and extensive commerce, alone enjoys constant and rapid communication, by steam, with the principal ports—Bristol, Falmouth, Plymouth, and thence by rail or sea, to London; and, by a judicious arrangement of the sailing of these steamers, which the proprietors would, for their own interests, instantly adopt, in connexion with the American mail, it is almost certain that the American traffic to the south of England and adjoining counties, to France and the north of Europe, would reach its destination 15 to 20 hours in advance of the time now occupied in directing the same traffic through Liverpool.

A steam communication at one time existed between Cork and Havre; and, as the establishment of the packet station at the former port would inevitably lead to the restoration of this line, the traffic on which could not fail to be highly remunerating, a most expeditious and cheap mode of conveyance would thus be opened for passengers and goods, destined to France and the north of Europe; and a large portion of the traffic now forwarded by the monthly steamer from New York to Havre, be certainly diverted, by means of these additional facilities for communication, to the English mail line to Cork.

In transmitting the latest intelligence, peculiar advantages would be derived from the selection of any port having railway communication with Dublin; as, under such circumstances, the electric telegraph would be laid down, at the expense of the Company, along their line of railway, by means of which and its projected unbroken continuation across the

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Channel to Holyhead, the intelligence by the American mail might be dispersed over the whole kingdom, at least 24 hours sooner than at present; and it is needless to state that so great a boon to the commercial community, if unattended by any inconvenience to trade or by an increased charge for conveyance of the mails, would of itself justify the establishment of either a fixed station or port of call in Ireland.

No additional expense would be incurred in transmitting the mails, for conveyance of which to an eligible port having railway communication the Post Office have already contracted; and it is to be supposed that the various newspaper proprietors and commercial bodies would defray the cost of forwarding intelligence by the electric telegraph. The cost of transmitting passengers by railway through Dublin may be estimated at 2*l.* 10*s.* per head, and that of goods 30*s.* per ton, and only half these charges would be incurred, if the traffic were directed by the Channel steamers to Cork.

2. In reply to your Lordship's second query, I am exceedingly gratified in being enabled, by means of information obtained from authentic sources, to exhibit most striking financial advantages to be derived from transferring the Transatlantic Packet Station to Cork; which, as I am prepared to state, would not merely allow of an immediate and considerable reduction on the present rates for passage and freights, but would, in all probability, eventually lead to an important saving in the contract price for conveyance of the mails.

Cork, from its vicinity and facility of access to Wales, whence coals suitable for steam purposes are only to be obtained, enjoys the inestimable advantage of procuring this important article of fuel on much cheaper terms than it can be had in Liverpool; the average cost in the latter port (as admitted in Mr. Cunard's evidence to the Packet Service Committee of last Session) being 21*s.* per ton, shipping charges included; whereas a similar article designated "Hand-picked Steam Coals" was at the same period, July, 1849, contracted for by the Admiralty at 15*s.* 4*d.* per ton, landed at Haulbowline, and allowing 8*d.* per ton, which is quite ample to cover the expense of putting the coals on board the steamer, I may fairly estimate the average cost at Cork to be 16*s.* per ton, or 5*s.* per ton less than the price paid in Liverpool.

The Harbour Board of Cork, with the laudable view of encouraging a direct steam communication with America, have likewise altogether abolished the tonnage dues on transatlantic steamers; and, from the position of Cork harbour, on the verge of the Atlantic, its facility of access, sheltered situation, and safe anchorage, the light and pilotage dues are comparatively trifling, and the rates of insurance on sailing-vessels (I presume the same rule would apply to steamers) trading to Cork are invariably 2*s.* 6*d.* per cent. less than to any other port in the channel. Independently of the preceding items of diminished expenditure, a considerable saving would arise, owing to the duration of the voyage to or from Cork being shortened 24 hours; from the lessened consumption of coals, calculated to be 50 tons, the reduced cost of maintaining passengers and crews, and the curtailment of wages and other incidental charges.

But in order to illustrate more forcibly the aggregate saving of expenses which the contractor would attain by a transference of the packet station to Cork harbour, I beg leave to submit, for your Lordship's inspection, the following statement in figures, the correctness of which I may, without hesitation, vouch for, and by which it is plainly indicated, that the highly important financial result of a diminished expenditure, to the extent of 580*l.* per voyage, would immediately follow from the establishment of the packet station at Cork, viz.:—

	£.	*s.*	*d.*
800 tons coal (the quantity required each voyage), laid in at 5*s.* per ton less than in Liverpool	200	0	0
50 tons less consumed on the voyage to or from Cork, estimated at 21*s.* per ton, the price now paid by the contractor . .	52	10	0
1*s.* 4½*d.* dock dues in Liverpool, not charged at Cork, which, on 2,000 register tons, is	137	10	0
Diminished cost of maintaining 65 passengers (the average number now conveyed by Cunard's steamers), and of supporting and paying wages, &c., of 35 men as crew, estimated at 1*l.* per head	100	0	0
2*s.* 6*d.* per cent. saving on insurance on 60,000*l.*, value of the steamer	75	0	0
Diminished expense of light and tonnage dues . . .	20	0	0
	£585	0	0

In other respects Cork possesses all the appliances requisite for rendering it an efficient and eligible steam station, as it has two steam factories of well known and merited reputation, in one of which the iron screw steamer "Pelican," a vessel of large size and power, was lately constructed, both in hull and machinery, complete. It also has warehouses, dockyards, dry docks, hotels, and, in fact, every convenience for either repairing or provisioning steamers, and for the accommodation of passengers and goods.

There is always sufficient depth of water, even at the lowest neap tides, to permit the largest class of transatlantic steamers, drawing 20 feet, to proceed up to Passage, and land or embark, by the aid of a small wooden jetty, passengers and goods at the present steam packet pier, which is contiguous to the terminus of the Cork and Passage Railway.

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Replies to Queries. (No. 3.)

Mayor of Cork.

The Government stores at Haulbowline (now unoccupied) are admirably adapted as a depôt for coals, which could be shipped with great facility; the depth of water at the north side of the island enabling the largest vessels in Her Majesty's service to lie alongside the quay, at all states of the tide.

I may also be permitted to mention, that the want of a dry dock, sufficiently capacious for vessels of large tonnage, hitherto so seriously felt, is now being remedied by Mr. Brown, of Passage, who purports, in accordance with the suggestion of the Admiralty, enlarging the size of his present dock, so as to admit the most burthensome ships in Her Majesty's service. The plan of the proposed new dock has been laid before, and approved of by the Board of Admiralty, to whom I beg to refer your Lordship for more particular information on this important improvement of our dock accommodation.

In addition to the foregoing, it is almost needless to acquaint your Lordship with the fact, that Cork already enjoys uninterrupted railway communication, from the deep water at Passage to Cork, and thence by the Great Southern and Western Railway to Dublin; and, in the event of Cork being chosen as the packet station, the Directors of both these railways have signified their intention of laying down the electric telegraph, so as to transmit the news of the mail steamer, with all possible despatch, to every part of the kingdom.

As, therefore, no outlay of money would be required, in order to render Cork at once available for packet service, the entire amount of the contractor's saving in expenditure might be applied to the reduction of his rates for passage and freights.

I have ascertained, on reliable authority, the average number of passengers by the mail steamers to be 65 each way, at a charge of 30*l.* per head in the main, and 22*l.* 10*s.* in the fore cabin (provisions included). If, therefore, the whole saving of the 580*l.* were appropriated, as suggested, to the abatement of fares, the contractor could afford to reduce his rates, on the outward voyage, 6*l.* per head for passengers, and 3*l.* per ton for goods. On the homeward voyage, as no saving would then occur in the price of coals, the reduction would be 4*l.* per head on passengers, and 2*l.* per ton on goods.

The next subject for consideration, and one involved in much obscurity, is, the probable increase or diminution of traffic which would result from the change of station to Cork. With so large an abatement on outward fares as 6*l.* per head on passengers, and 3*l.* per ton on goods, a most powerful pecuniary incentive would be offered for directing the whole of the present Liverpool traffic through Cork; for, having in my reply to your Lordship's first query, estimated, and, I believe, with exactness, the expense of transmitting passengers at 2*l.* 10*s.*, and goods at 30*s* per ton by railway to Cork, and at half this charge by the Channel steamers, the advantages to be obtained in a pecuniary point of view by the commercial community, who chiefly contribute to the present traffic, are too obvious to be overlooked; and, although it is a question of speculative conjecture, I cannot but entertain a sanguine expectation, that not only the entire traffic now conveyed by Cunard's vessels, but much of that directed by the competing American steamers, would be instantly transferred to the station at Cork.

From the statement of intelligent commanders of ships trading between Liverpool and America, I have learned that, in consequence of the disasters which have occurred in the Channel, a very prevalent desire is evinced, and especially by families, to land or embark at an outport, in order to avoid this difficult and dangerous channel navigation; and when this proper and natural precaution would be attended also with a considerable saving of expense, scarcely a doubt can exist that Cork would command a preference above any other station in the kingdom. In corroboration of these views, I beg to hand the accompanying document, tendered to the Local Committee by Mr. H. H. O'Bryen, who commanded a screw steamer between Liverpool and South America, and whose opinion on nautical questions is entitled to great weight.

In the conveyance of the traffic connected with the Southern and Midland districts of England, comprising the important towns of Sheffield and Birmingham, whose trade with America is very extensive, the advantages of the mail station at Cork are too striking to admit of any cavil or doubt; for, by the agency of the steam communication, to which I have already drawn your Lordship's attention, with Bristol, Falmouth, Plymouth, London, and thence to the north of Europe, both passengers and goods could be directed from all these points through Cork, at a gain of many hours in time, and a saving of expense of not less than 20 per cent. on the fares now charged from Liverpool.

It is further to be considered that a packet at Cork would retain the exclusive possession of the trade between Ireland and America, which recent events and legislative changes have tended largely to increase, and the ties of connexion and intercourse between the two countries having been much strengthened by the emigration of the past four years, which is still proceeding, it may reasonably be expected that a considerable number of the respectable portion of this class of passengers would gladly avail themselves of the mail steamers from Cork, at the reduced fares, fore cabin, of 16*l.* 10*s.* per head, rather than proceed by the tedious and, too often, unhealthy and dangerous conveyance of a sailing-vessel.

The ease, rapidity, and regularity with which the transatlantic voyage is now performed, will also operate in producing a marked change in the class of passengers between Europe and America; and, as it now chiefly comprises persons of commercial pursuits, the experience derived from the statistics of other frequent and rapid lines of communication would lead me to believe that the number will considerably increase of those who travel for health, amusement, or instruction. To persons of this class no port could offer such attractions, to land or embark at, as Cork; not alone from the unrivalled scenery of its

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own harbour and river, but from the admirable opportunity thereby offered to strangers, of visiting the far-famed Lakes of Killarney, which, in the short interval of a year, will be brought within three hours' journey of Cork, by a line of railway in conjunction with the Great Southern and Western at Mallow.

In contemplating, then, this branch of your Lordship's inquiry, the only conclusion I can arrive at is, that no diminution of the present traffic could arise from transferring the fixed station to Cork, but rather, when the financial and other material advantages of this port have been fully appreciated, there is every reason to expect such an increase of traffic as would enable Government to effect a considerable saving in future contracts for conveyance of the mails.

None of the advantages here described as appertaining to Cork would be obtained by selecting any of the western ports of Ireland; for, owing to the distance and difficulty of navigation from Wales, coals, the chief item of expense, are usually dearer at these ports than in Liverpool; and besides heavy tonnage dues should be levied, and the entire saving of expenses, on account of the shorter duration of the voyage, set apart for the purpose of constructing piers, dry docks, and steam factories, and for deepening and otherwise improving these harbours, so as to render them efficient steam stations.

3 and 4. The topics embraced in these queries have been so fully discussed in my previous replies, that I need not trespass on your Lordship by reiterating the arguments therein advanced, and which, I trust, will prove, to your Lordship's satisfaction, that increased facilities and advantages of no ordinary kind would be afforded to passengers and the transport of goods, by the choice of Cork as the packet station. But if, for reasons which I cannot penetrate, it were not deemed desirable to select a fixed station in Ireland, the ready means of communication from Cork to all parts of the kingdom, and the statistics I have furnished as to the cheapness of coals, as well as the nautical advantages hereafter to be mentioned, establish beyond question its eligibility as a port of call for steamers, to take in coals, or land and embark passengers, mails, and goods.

5. In addition to the financial reasons, already stated, for preferring Cork as a fixed station, I am fortified by the opinions of the highest authorities in the naval and merchant service in asserting that Cork, owing to its geographical position, the facility of egress from and ingress to its deep, sheltered, and expansive harbour, eminently surpasses, in a nautical view of this question, any of the western ports of Ireland. Capt. Sir Robert Hagan, R.N., who served for some years as Inspecting Commander of the Coast Guard on the south of Ireland, has, in his replies to your Lordship's naval queries, expressed a decisive opinion that the transatlantic steamer would invariably, as a necessary measure of precaution, steer a southerly course on her homeward voyage, and endeavour to make the land at Cape Clear. In proceeding from this headland to a western port, the steamer should retrace her course, thus making the voyage to Limerick or Galway, the only western ports having railway communication with Dublin, as tedious as that to Liverpool; and at the imminent risk of shipwreck, this costly and richly-freighted vessel would be compelled to coast along an iron-bound and, owing to the prevailing westerly winds, a dangerous lee-shore, exposed to the full sweep of the tempestuous and broken seas of the whole Atlantic Ocean.

On the other hand, Cape Clear lies in the direct route to Cork, and the steamer would proceed thence to this harbour in comparatively smooth water, and with perfect safety under the shelter of the eastern land, the prominent points of which, the Old Head of Kinsale and Galley Head, are already well known to the commanders of vessels engaged in the American trade.

Again, in thick weather, a steamer bound to a western port should, under such circumstances, either lie-to or steam at quarter-speed; as the continuous rocky nature and unvarying depth of the soundings to the western shore offer no indication of the distance from, or true position with the land; whereas to the eastward of Cape Clear, the variable character of the soundings and their gradually decreasing depth prove, as I am credibly informed by nautical authorities, a safe and unerring guide into Cork harbour.

Apart from the nautical advantages here described, Cork, on account of its position, is peculiarly eligible as a port of call; as the transatlantic steamer, on the inward and outward voyage, at present passes within a few miles, and frequently within sight of Cork harbour; and only a slight deviation, therefore, from her direct route, accompanied by a trifling loss of time, would occur by the steamer calling at this port, to land passengers or mails; whereas a tedious and hazardous coasting voyage should be undertaken to admit of the steamer touching at Limerick or Galway, which only of the western ports, as having railway communication, may at present be considered eligible for this purpose.

6. Although, for the important and weighty reasons herein advanced, a decided preference would be given to the packet to or from Cork, there can be little doubt that the withdrawal of the mail steamer from Liverpool would instantly be followed by the establishment of another line of steamers by private enterprise, to supply the vacancy thereby created in the direct communication with that port. In such an occurrence, however, I see no cause for apprehension or alarm, as the increased facilities so afforded to passengers, and for the transport of goods, would tend to enlarge the international traffic between Great Britain and America, and, at the same time, would remove any just cause of complaint on the part of the Liverpool merchants; while the additional competition, thus called into existence, would effect a great saving of expenditure, not merely to the commercial community, but likewise to the Government, who would be in a position, at the expiration of the present contract for the conveyance of mails, to renew it on highly favourable terms.

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REPLIES TO QUERIES. (No. 3.)

Mayor of Cork.

The principle of opening contracts to foreign competition has already been recognised in other branches of the public service; and if American steam proprietors tendered at a lower rate than their English competitors, for the conveyance of the mails to or from Cork, I feel assured that wealthy English mercantile firms connected with the United States would readily offer ample security for the due and efficient performance of the contract.

7. For want of the requisite information, to be derived only from steam proprietors, I am unable to return a satisfactory answer to this query.

Having now replied to your Lordship's queries, I trust I may be allowed, in conclusion, to remark upon the immense importance, politically and socially, of establishing a packet station at Cork.

This portion of Her Majesty's dominions has been plunged into extreme misery by the failure of its staple crop; and the surplus agricultural population, having no means of obtaining industrial employment, are unavoidably thrown for support upon the several Poor Law Unions, thereby crushing with heavy taxation the already overburdened landed interest. No means of escape offer from this lamentable position, but in the encouragement of manufactures; and nothing is now wanting but the requisite aid of capital, to carry out the movement for the cultivation of flax, and establishment of linen factories, to a successful issue.

With the weekly opportunities that would be afforded to American merchants to visit and inspect the great natural capabilities of the south of Ireland for manufactures, its water-power, its soil and climate so suitable for the cultivation of flax, with the facilities that would offer for a cheap and rapid transit of goods by steam to the United States, where Irish linens are in such extensive demand; is it not reasonable to suppose that the characteristic energy and enterprise of the Americans, aided, perhaps, by that sympathy which they have always entertained for this country, and which they so nobly displayed in the year of the famine, would readily furnish the capital required?

Should this result follow, as I firmly believe it would, from the establishment of a packet station at Cork, the social difficulties which have hitherto embarrassed Government in legislating for Ireland would speedily vanish; plenty and contentment would replace misery and want; taxation would be lightened, land enhanced in value, and the revenue considerably increased.

For these most cogent, political, commercial, and financial reasons, for the great benefits that would in such a case necessarily accrue, not alone to Ireland but to the empire at large, I trust the Commission appointed to inquire into this subject will deem it advisable to recommend strongly to Parliament the immediate transference of the Transatlantic Packet Station to Cork.

I enclose herewith the important statement of Sir Robert Hagan, Captain R.N.

I shall take the earliest opportunity of furnishing your Lordship and the other members of the Commission with printed copies of this communication.

I have, &c.,

JOHN SHEA, *Mayor.*

To the Right Hon. Lord Hobart, &c. &c.

H. H. O'Bryen, Esq.

1. Intelligence by telegraph, from 18 to 20 hours; for passengers, 9 hours; goods, same as from Liverpool, except continental, which would be much shorter.

2. Should the packet remain at Cork and not proceed to Liverpool, the difference of expense would be in proportion to the difference of time occupied, calling the passage 11 days, Cork being one day shorter. The contractor would save one day's entire expense of carrying each mail. Passengers may be taken for about 3*l.* per head less than the present rates.

3. In my opinion, from experience while in command of the "Antelope" screw steamship, I consider passengers would prefer embarking at an out-port; having known several of them to leave Liverpool and Manchester, with large families, and take passage by sailing-ships from other ports to avoid the channel, at considerably more expense than they could have got by steam by Liverpool; the channel being their great objection. It would not interfere with goods; for the great bulk of goods going are continental, and the English goods may be forwarded by the coast steamers, at a trifling cost.

5. Cork, for many reasons. *First*, intelligence by telegraph, per Great Southern and Western Railway. *Second*, there being no port so easy of access on our coast. *Third*, the mariner, coming from his voyage in thick weather, can run for Cork, by his lead, in perfect safety, even though he may not have seen the Cape or Western land. The soundings are laid down so distinctly, and vary so much in description in the various depths, as to be a sure guide to this port.

6. None; on the contrary, from the reasons given in No. 3, passengers will always prefer a port on this coast to coming through the Channel. The goods going by these vessels being principally continental, it can make no difference to the merchant whether they come to a port in Ireland for shipment, or to Liverpool.

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My Lord, *Birmingham, April* 22, 1851.

Replies to Queries. (No. 3)

I have the honour to enclose to you the answers received from one of the most extensive merchants in the American trade with this town, in reply to the queries submitted by you to me in your letter of the 15th inst. *Mayor of Birmingham.*

I have, &c.,
William Lucy,
Mayor.

The Lord Hobart,
&c. &c.

Henry Vanwart. *Henry Vanwart.*

1 (A). Gain of 10 to 12 hours to mails.

Supposing the mail steamers to run from the most convenient port on the west coast of Ireland to a port on the east coast of Nova Scotia, intelligence by telegraph might be received in London from all the principal cities in the United States and Canada in about 150 hours.

1 (B). Very few if any passengers would go by this route to or from the United States or Canada, as the additional expense and fatigue of travelling so far by railway would be considerable.

2. While a good line of steamers run *direct* between New York, Boston, and Liverpool, I am of opinion that they will take nearly all the goods usually shipped per steamers, as well as all the first class, and nearly all the second-class passengers.

3. If the suggested ports in Ireland and Nova Scotia are to be merely places of call for our mail steamers, for the purpose of coaling, and of landing mails, and of transmitting intelligence by telegraph, I think they may continue to compete with the United States mail steamers, but not otherwise.

It appears to me that the only advantage of such places of call would be the quick transmission of news by telegraph. The vessels would certainly be able to take more freight, but this would hardly be a compensation for the loss of time, which would, I presume, be full two hours at each station, and in foggy weather much more.

4. I cannot offer an opinion upon this point.

5. See my answer to Query 2. I will merely add, in conclusion, my decided opinion that the suggested change is quite uncalled for.

Birmingham, April 19, 1851. Henry Vanwart.

My Lord, *Town Clerk's Office, Leeds, April* 29, 1851.

I am instructed by the Mayor of this borough to acknowledge the receipt of your letter of the 15th instant, addressed to him, asking for answers to certain queries as to the removal of the transatlantic mail packets to an Irish port; and in reply thereto I have the honour to enclose your Lordship a letter written by one of the members of a large mercantile firm in this town, which I think contains what you require on this subject. *Mayor of Leeds.*

I have, &c.,
For the Town Clerk,
Jas. Wardell.

The Right Hon. Lord Hobart,
Board of Trade, London.

Dear Sir, *Leeds, April* 26, 1851.

I received this morning the "Queries" respecting the Transatlantic Steam Packet Station, and hasten to give you such a reply as the limited time I could give to the question permits. I do not know the extent of the saving of time which can be effected by adopting an Irish port; and my opinions must, therefore, be based upon my own estimate of that probable saving, which, after all, may be quite wide of the mark.

I assume that Galway would probably be the most eligible port (but the acknowledged dangerous character of that coast in winter might render it not so desirable a port as perhaps Cork), and estimating the maximum saving of time between this town and New York at 10 or 12 hours, I doubt whether an efficient and practicable advantage would be gained by removing the station from Liverpool.

As regards passengers, it must be borne in mind that Atlantic voyagers have usually a large quantity of luggage, and if the embarkation took place at Galway, a passenger from England would have two or three extra transhipments, which always involve trouble and anxiety, and not unfrequently loss; besides the question of expense would have to be taken into account, as it would not be likely that the total cost would be greater viâ Galway than going on board the steamer at Liverpool. These considerations would, in my opinion, deter 80 per cent. of the passengers from availing themselves of the new route, if they had the alternative of departing from Liverpool open to them; and I do not think the American line of steamers will under any circumstances be induced to remove their station from that port.

With regard to goods traffic, I do not think 5 per cent. of the English merchandise could be secured to the Irish route; for, apart from the increased cost of getting our merchandise to Galway, which would be considerably greater than it now is to put them on board at Liverpool, the increase of time required would extinguish any chance whatever of successfully competing for it. At present we send our goods off on Thursday night, and they are put on board the steamer on Friday. The vessel sails about mid-day on Saturday, and in about 60 hours from the time they are despatched from the merchant's warehouse at Leeds, they have

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Replies to Queries. (No. 3.)

made Cape Clear; whereas by the new route I do not see how they could be got to Galway in less than 96 or 120 hours!

I am, therefore, of opinion, that in respect to Query—

No. 1. That it is not advisable to remove the transatlantic station from Liverpool to the west or south coast of Ireland, either as regards goods, passengers, or expense.

No. 2. I do not think the facilities of the new route could be by any means equal to what we at present have; and I do not think that 25 per cent. of the passenger traffic, nor 5 per cent. of goods traffic from England, could be secured. The class of passengers who would avail themselves of the new route would be limited almost to those who might have *special* reasons for urgency, and mainly such as under the old packet (sailing) service used to land at Cork when the mail bags were landed there when the winds were adverse, and a probability that the vessel might be kept out rather longer than usual.

No. 3. The same reasons given under No. 2 apply in some respects to this. A small number of passengers would avail themselves of the opportunity to embark or debark at Galway, if all the steamers inward or outward bound were to touch there, but the proportion would not, I think, exceed 5 per cent. of the whole. The detour would involve a loss of time to the other 95 per cent. of passengers, and an equivalent loss of time to the whole of the merchandise from England on board.

No. 4. I am unable to give an opinion as to the relative merits of the Irish ports; I should, however, think, that, instead of adopting the suggested alteration, it would be a better one to pick up and set down the mails and passengers at Holyhead, which would give five or six hours additional time for the land movements of the passengers, which would in many cases, almost generally, make a difference of a day to passengers from this town, whether going out or coming in.

No. 5. I most decidedly think that the effect of adopting an Irish port as the terminus of the voyages of the transatlantic steamers would divert a large portion of the passengers to the competing lines of steamers, and I think it would throw the whole, or nearly so, of the goods traffic into their hands. The income of the contract mail line would, in my opinion, be little more than what would be derived from the Post Office service.

I have been 25 years in the American trade, and am now so exclusively. We have establishments for the purpose of purchasing manufactured goods for the American market, in Leeds, Bradford, Huddersfield, Manchester, Glasgow, and Belfast; and excepting Belfast (and I am not sure but Liverpool would still be the best and least expensive port to ship Belfast goods at). I am of opinion that we could make but very little use of the English steamers, if Galway or Cork should be made the terminus for the Atlantic voyages.

Hoping that these few remarks may assist you in making up your report to the Board of Trade,

I have, &c.,

George Goodman, Esq., Mayor, Leeds. William Firth.

General Shipowners' Society,
80, *Cornhill*, *January* 21, 1851.

My Lord,

General Shipowner's Society.

I am directed by the Committee of the General Shipowners' Society, to offer their apologies for the delay in replying to your letter of the 19th November last, which has been caused by an unavoidable interruption of the meetings of the Committee.

The subject of your letter has now been brought under their consideration, and it would have afforded them pleasure had it been in their power to have furnished information on the several questions submitted in your letter in reference to the establishment of a Mail Transatlantic Station at some port on the west or south coast of Ireland.

But after mature consideration, the Committee find that the several points on which their opinion is asked are so little within the scope of their experience as General Shipowners, that they fear it would not be possible for them to furnish replies or observations calculated to throw any important light on the object of the inquiry, or on which they could claim the reliance of the Commissioners.

I have, &c.,

Lord Hobart,
Board of Trade.

William Bonar,
Secretary.

Replies to Queries. (No. 4.)

REPLIES TO QUERIES. (No. 4.)

City of Dublin Steam Packet Company.

City of Dublin Steam Packet Company.

1. By the terms of the contract entered into with the Lords Commissioners of the Admiralty, the Company are bound to provide vessels equal to the performance of the passage at the rate of not less than 12 knots per hour, and certain penalties are incurred if the time actually occupied from the time of putting the mails on board the vessels to the starting of the trains appointed to receive those mails shall have exceeded five hours; unless the Lords of the Admiralty are satisfied that any excess has been caused by weather or accidental causes not under the control of the Company.

As the time necessary to transfer the mails from the pier at Holyhead to the railway station, together with the time usually occupied in passing through Kingstown Harbour, is about 20 minutes, the allowance for the sea passage is therefore 4 hours 20 minutes, being exactly

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Replies to Queries. (No. 4.)

City of Dublin Steam Packet Company.

that which would be occupied in making the passage across the Channel at the rate of 12 knots per hour; assuming the distance (as has been usually done) to be 56 knots, such are the conditions of the contract as to speed, the passage is now frequently made in less time. The returns furnished by the agent of the Admiralty at Holyhead, will be the most correct authority for ascertaining the exact average.

2. The time given in the returns is calculated from pierhead to pierhead. From 5 to 10 or 15 minutes (according to the weather, or obstructions in the way) should be added to complete the passage from wharf to wharf.

3. There is no reason to doubt that the speed contracted for will be fully maintained; it is not likely, therefore, to be altered for the worse. Whether it is likely to be altered for the better, the Directors at present cannot venture an opinion; as an improvement of that nature would necessarily lead to an alteration of the terms of the present contract.

REPLIES TO QUERIES. (No. 5.)

Cunard, and Co.

Replies to Queries. (No. 5.)

Cunard and Co.

Mr. MacIver has the honour to acknowledge the receipt of Lord Hobart's communication of the 20th instant, addressed to Messrs. Cunard and Co., and now begs to furnish his Lordship with replies to the queries contained therein.

Liverpool, November 21, 1850.

1. The North Atlantic service being worse than any other as regards severity of weather and high seas, obstructions from ice, and prevalence of fog on the Nova Scotia coast, the average rate per hour on any number of passages does not indicate at all the capability of the vessels to maintain under different circumstances considerably greater speed. On this station speed is only a relative term for prudence and safety, and the extraneous causes noted above render it difficult to say whether the Commissioners may safely calculate upon 11 miles per hour prospectively for the average passage out and home; but taking past experience, I think they may, because the vessels on the station are not second in speed to any ocean steamers in the world, and the vessels now building will be even superior.

2. The average rates, as given in the first query, are reckoned from wharf to wharf.

3. The packets start from Liverpool at times varying according to tide; no delay takes place in consequence of want of water to cross the Bar, the time of starting being made to suit.

4. To meet the competition of the United States contract steamers, the power and capacity of these vessels have been gradually increasing for years, and the steam ships now employed in the service have capacity for carrying coals sufficient for a voyage as far as the Cape of Good Hope, so that it would be neither advantageous nor profitable for them to call at any port in Ireland.

Liverpool, November 21, 1850. Chas. MacIver.

REPLIES TO QUERIES. (No. 6.)

Chester and Holyhead Railway Company.

Replies to Queries. (No. 6.)

Chester and Holyhead Railway Company.

1. Plans and sections are lodged for an extension of the railway from the present terminus to the packet pier, including additional accommodation for steam-boats.

The extension line is laid out under the sanction of Mr. Rendel, on behalf of the Commissioners of Woods and Forests; and so, that when the time arrives it may be carried on to the packet pier of the new harbour.

2. The intention of the Directors is to carry out the extension to the present pier immediately, and with the concurrence of the Commissioners of Woods and Forests.

3 and 4. The Directors believe that the two mails each way daily are conveyed on the Chester and Holyhead line at a rate of speed exceeding that on any other part of the railway between Holyhead and London.

They are not aware of any other plans for an acceleration of the mails, which, by those above specified, might gain about 20 minutes to half an hour, if the arrangements of the Post Office did not interfere.

The Directors see no reason why the mails between Dublin and London may not be conveyed in 14 hours, of which 5 hours will be occupied in the passages from the Post-office, Dublin, to Holyhead, provided the Post-office stoppages were modified.

REPLIES TO QUERIES. (No. 7.)

Capt. Hon. E. Plunkett, R.N.

Replies to Queries. (No. 7.)

Captain Hon. E. Plunkett, R.N.

1. Two years.
2. Two, chiefly on the west coast.
3.

Cork	Seven or eight times.
Long Island . . .	Never.
Crookhaven . . .	Twice.
Berehaven	Five times.
Valentia	Six or seven times.
Tarbert.	Several times (often).
Galway	Often.
Dunmanus Bay . .	Never.

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REPLIES TO QUERIES. (No. 7.)

Captain Hon. E. Plunkett, R.N.

4. Cork, very good.
Crookhaven, unfit for large ships as a station.
Berehaven, too blind an entrance at night, or in thick weather.*
Valentia, the same, but more dangerous to run for.
Tarbert, a good anchorage if moorings were laid down. The Shannon is easy of entrance, but the adjacent coast (Malbay) dangerous.
Galway, good and easy of access, but small in the part suited to large ships. A considerable space could be gained by running out a short groyne or breakwater.

5. Frequently from and into Tarbert and Galway under various circumstances. All might easily be sailed *from* in moderately clear nights, but not *entered* by large ships coming home unless sighted before dark.

6. Very dangerous; the sea being heavy and breaking at great depths, the gales violent and lasting, the soundings so irregular as to be useless, and thick weather very prevalent.

7. If this question refers only to the western ports, Galway. If Cork be included, I should prefer it to any western port.

8. Galway Bay is easily entered and easily distinguished by day or night; the Arran Isles, with their excellent light, pointing it out. But Cork has the great advantage of not being on a dead lee shore with the prevailing winds; and having the St. George's, the Bristol, or the English Channel, *open*.

9. For Galway, the high land of Connamara. For Cork, Cape Clear.

10. Galway, Arran light, Cork, Cape Clear.

11. No.

12. Yes.

13. Not for any *western* port in the winter or with westerly winds.

14. Cork.

Capt. Bedford, R.N.

Capt. Bedford, R.N.

1. Six and a half years.

2. I have never cruised on this coast during the winter months. Our surveying operations being discontinued from November to April.

3.

Cork	Once in June, 1849.
Long Island . . .	Never.
Crookhaven . . .	Never.
Berehaven	Once, but many years ago.
Valentia	Never.
Tarbert	Once to Tarbert. Several times to the estuary of the Shannon.
Galway	Frequently, and at all times between April and November for the last six years.
Dunmanus Bay . .	Never.

4. I consider the facilities for approaching or leaving the port of Galway to be as great as any with which I am acquainted. It is not customary to employ a pilot, unless by an entire stranger. Indeed there are no regular pilots, except for entering the dock (this being compulsory). Fishermen, casually met with, may be employed by one who has never entered the port.

From my experience of the mouth of the Shannon, I consider the sea to be higher there than at the entrance of Galway Bay, produced, in part, by the very strong tide that issues from the river.

5. I have frequently entered the port of Galway during the night, and under various circumstances of wind and weather, without difficulty; also, two or three times into the estuary of the Shannon.

6. I have not navigated the coast during the winter season; but have experienced some rough weather in the summer, in which the gales seem as frequent, and perhaps as violent, though the long nights of the former so materially increase the danger.

I consider the navigation of the coast of Connamara, westward of Golam Head, to be dangerous, but not so that from the Shannon to Galway Bay.

7. I am not acquainted with the specified ports at the south-western extremity of Ireland; but from the numerous bays which there open out in the same direction, and which are not very widely separated, compared with the spacious mouth of Galway Bay or the Shannon, it seems that, in hazy weather, and with a doubtful position, there would be more danger of mistaking the former than the latter ports.

8. Given in the preceding. And of the ports of Galway or Tarbert, I should prefer the former for reasons already advanced.

9. The Arran Islands.

10. The Arran Island lights.

11. I would fearlessly run for Galway Bay whenever it were prudent to run for any port, and with far greater confidence than I could for Liverpool with all its outlying dangers.

12. Not so confidently, under the above circumstances, as for Galway, by reason of its more contracted entrance.

13. The prevalent winds, being westerly, would render it more easy to reach the port of

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* Berehaven has two entrances, the easternmost has a light, but still is hard to make out in dark, hazy weather.

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Galway than Cork; for, in the latter case, a disabled paddle-steamer might be blown past the port.

14. For reasons given in preceding answer, and with a fair wind, I would prefer making for a westerly port, provided, of course, that it possessed the means of repairing the damage.

Capt. Bedford, R.N.

Capt. F. Lowe, R.N.

Capt. F. Lowe, R.N.

1. From September, 1844, to August, 1847.
2. Two.
3.

Cork	Twenty times.
Long Island . . .	Twenty times.
Crookhaven . . .	Once.
Berehaven	Once.
Valentia	Twice.
Tarbert	Six times.
Galway	Three times.
Dunmanus Bay . .	Three times.

4. Cork Harbour is an excellent anchorage in every respect, and easy of access at all times.

Valentia is an excellent harbour, and well sheltered from all winds; but the entrance is narrow, and not easily made out in thick weather.

Tarbert is a good anchorage, but not so well sheltered as either of the above; and the tides at times run like a sluice.

Galway Bay is a safe anchorage, but a good deal exposed; the harbour is only accessible at high water.

5. Into Cork, eight or nine times, at all seasons of the year. Into Tarbert, twice; under all circumstances, I had made out the land well before dark.

6. Particularly so, from the very heavy sea and thick fogs to which this coast is very subject, and from the lead being very little guide.

7. Cork.

8. On the south-west coast there is good warning given by the lead of the approach to land, and there is considerably less sea than on the west coast, where there is frequently 30 fathoms of water close to the shore.

9. Old Head of Kinsale.

10. Old Head of Kinsale light.

11. Certainly not, unless I had made the land before dark, or made the Skelligs, Loop Head, or Arran light in the night; and, even then, it would be necessary to be very cautious, the fogs come on so suddenly.

12. Much oftener than I would for any of the other ports.

13. Under such circumstances, I would not attempt to run for the land at all during the night.

14. This would depend on the situation of the vessel, and the direction of the wind.

Capt. T. Fisher, R.N.

Capt. T. Fisher, R.N.

1. One year and eight months.
2. One winter and a portion of a second.
3.

Cork	Twenty-three times.
Long Island . . .	Never.
Crookhaven . . .	Never.
Berehaven	Once.
Valentia	Four times.
Tarbert	Sixteen times.
Galway	Eight times.
Dunmanus Bay . .	Never.

4. All are safe and well sheltered, but not equally easy of access.

5. In and out of Tarbert, Galway, and Cork frequently, and under all circumstances of fine and foul weather.

6. I do, from the very heavy sea experienced during the winter season, and the frequency of *sudden* hazy foggy weather.

7. The River Shannon.

8. Being easy of access, and having good anchorage between Loop Head and Tarbert, should circumstances render it necessary.

9. Loop Head.

10. Loop Head light.

11. I would not, as a general rule, run for any port under such circumstances; but if I had previously obtained good observations, I should not hesitate to run for the Shannon.

12. I would, but not by preference.

13. It would not, always supposing that running for any place in the night means your reaching it before daylight.

14. The River Shannon.

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Replies to Queries. (No. 7.)

Capt. Thomas Driver, R.N.

Capt. Thomas Driver, R.N.

1. Four years.
2. Four winters.
3.

Cork	Very often, but I do not recollect how many times.
Long Island . . .	I think four or five times, but cannot say how many.
Crookhaven . . .	About four or five times, but cannot state how often.
Berehaven	Very often, but do not recollect how often.
Valentia	Very often, but cannot state how many times.
Tarbert	Very often, but cannot state how many times.
Galway	Several times, probably six or seven.
Dunmanus Bay . .	Never there.

4. Cove of Cork is a very good harbour, and may with safety be entered night or day by a person who is acquainted with it.

Long Island, a very good harbour, but ought not to be approached in the night, as the land will not be seen to make out the entrance.

Crookhaven, a safe harbour for small vessels. Large ships occasionally anchor at the entrance of the harbour, but are much exposed.

Berehaven, a good harbour; the entrance narrow; ought not to be attempted in the night.

Valentia, a most excellent harbour. I should prefer it to any other on the north-west coast of Ireland as a western packet station, and would run for it night or day if I could make out the land at all, and which I have done when commanding the "Dee;" but it requires a perfect knowledge of the place to be able to do it. The best water on the coast is to be got there without much trouble. There is a rock at the entrance which could be removed.

Tarbert, a very indifferent anchorage, the tides run very strong. I have drove there with 70 fathoms chain outside the hawse, not from the force of the wind, but owing to the velocity of the tide.

Galway, an open roadstead, unsafe in the winter months, and not adapted, under any circumstances, for a western packet station.

Dunmanus Bay. Never was in the bay.

5. Cove of Cork many times, but cannot state how often. Valentia, ran in, being bad weather.

6. Yes, particularly to a stranger; it being a lee shore, with the prevailing winds on that coast.

7. If bound to the Shannon, endeavour to make the land about the Blaskets; then run for the light on Loop Head, and anchor for the night in Carrigaholt Road.

If bound to Valentia, make the Skelligs: then proceed to Valentia Harbour, and anchor.

8. I prefer Valentia to any harbour on the north-west coast of Ireland. It is quite land-locked, and tides are not felt. The Shannon is not so, tides run hard.

9. This depends where bound to. If to Cork, I would make Cape Clear night or day; but if to the Shannon or Valentia, the same as I have stated above, namely, Blaskets for Shannon, and Skelligs for Valentia.

11. Not for Galway; it being an open roadstead, and not affording shelter.

I would run for the Shannon, if the weather was so clear as to make out the light on Loop Head.

Also run for Valentia; but not for Bantry Bay, or Long Island.

12. I would run for Cork; I have often done so.

13. For Cove of Cork; for the defects can be made good there, but not at any other of the ports named.

14. This would depend on where bound to.

Thomas Laen, Esq. (Master Attendant, Chatham Dockyard).

Thomas Laen, Esq. (Master Attendant, Chatham Dockyard).

1. Better than three years.
2. Three winters from Belfast to the west coast.
3.

Cork	About thirty times.
Long Island . . .	Never.
Crookhaven . . .	Never.
Berehaven	Twice.
Valentia	Never.
Tarbert	Twice.
Galway	Four times.
Dunmanus Bay . .	Never.

4. From what I have experienced, I do not think that either of these ports will do for a packet station, except Berehaven or Cork.

5. Never to my knowledge.

6. I consider the navigation of the west coast dangerous in the winter season, having frequently thick, hazy weather, gales of wind, and oftentimes not able to see half a cable's length. The last winter I was on the station just before Christmas. I sailed from Cork for Galway with provisions. After clearing the Loop Head, I opened Galway Bay about 5 P.M. A gale came on from N.W. to W.N.W. with thick dirty weather; and, although I had a pilot on board, I considered it was not prudent to run. (Irish pilots are of no use when they cannot see the land.) As to steam to sea, it was out of the question; the vessel would not

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Thomas Laen, Esq. (Master Attendant, Chatham Dock-yard).

steer; consequently, I hove to, keeping the wheels going round, wearing occasionally during the night. At daylight, still blowing very hard, I bore up and made my passage. Now, if I had been caught to the southward of the Blaskets, chances are I should have gone on shore. Once I sailed from Galway with fine clear weather; I steamed out of the bay until abreast of Arran Island bound to Cork; it then became so thick that I could not see half a cable's length, and was two days from thence before I made Old Head of Kinsale, running by the lead. During this passage, I am convinced, no vessel could have gained a port on the west coast.

7. Berehaven or Cork. If the weather was clear, I would run for Berehaven; if thick and hazy, for Cork.

8. Knowing, at the same time, that I could get every thing I wanted there.

9. Cape Clear.

10. Cape Clear.

11. If near the land, I would not run for either.

12. I would not.

13. It would not be prudent before the weather cleared.

14. Cork, as every assistance, and all things necessary for the repairs, are to be obtained there.

Lieut. A. R. Dunlop, R.N.

Lieut. A. R. Dunlop, R.N.

1. One year and nine months.

2. Two winters on the west and south-west coasts.

3.

Cork	From twenty to thirty times.
Long Island . . .	Once.
Crookhaven . . .	Four or five times.
Berehaven	About ten times.
Valentia	About seven times.
Tarbert	From thirty to forty times.
Galway	About twenty times.
Dunmanus Bay . .	Not at all.

4. Cork, Galway, and Tarbert are the easiest of access at night, and the safest harbours to run for in thick weather.

Valentia is a better harbour than any of the eight when once inside, but the entrance is very narrow; and I should not like to run a large steam vessel for it at night, although there is a lighthouse on the Point.

Crookhaven is a safe harbour to run for, and also when inside; but it is extremely narrow.

Berehaven is a very safe anchorage, but rather a narrow entrance to the westward, also a passage round the lighthouse to the eastward.

Long Island Sound requires local knowledge, and, I should say, is not safe to run for, unless very well acquainted.

Dunmanus Bay I was never in.

5. Yes, I have both entered and sailed from nearly all of them at night. I have entered at times blowing hard with thick weather; but have never sailed from them under similar circumstances, but have waited until the weather has moderated

6. I consider some parts of the west coast extremely hazardous in the winter time, from the numerous islands and reefs lying off the coast, together with its being subject to heavy westerly gales, and very heavy seas from the Atlantic, accompanied with very thick weather. These cause a great indraught into the bays; but a well-found steam vessel has, I think, nothing to fear.

7. Galway or Tarbert.

8. Because they are more open or clearer of dangers, and are both well-lighted.

9. Hag's Head for Galway, and Loop Head for Tarbert.

10. Slyne Head lights (which are very good), then Arran Island light for Galway, and Loop Head light for Tarbert.

11. I would for the Shannon, there being no danger whatever in the entrance.

Galway requires more care until the Arran Islands are passed, when the only danger is a small rock to the southward of the entrance, lying about two miles off shore, which has a buoy on it with about 12 feet low water spring tides; and I should think there would be but little difficulty in blasting it away.

12. If it suited the position of the vessel, certainly.

13. Yes, the Shannon is perfectly clear of all dangers until Carrigaholt's anchorage is passed, which roadstead has good anchorage and protection from all westerly winds; or Tarbert light, on a proper bearing, will clear all dangers.

Galway is also a good port to run for, being well lighted.

In the daytime I would run for any port except Long Island or Dunmanus Bay, unless well acquainted with the two latter.

14. Galway or the Shannon.

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REPLIES TO QUERIES. (No. 7.)

Capt. H. E. Wingrove, R.N.

Capt. H. E. Wingrove, R.N.

1. From October, 1846, till September, 1847.
2. One.
3.

Cork	Twenty-three times.
Long Island	Four times.
Crookhaven	Five times.
Berehaven	Thirteen times.
Valentia	Eight times.
Tarbert	Three times.
Galway	Once.
Dunmanus Bay	Never.

4. Cork is a good harbour in every respect, and, *when made*, may be entered under almost any circumstances.

Long Island, a long narrow sound, with smooth water, and good holding ground; entrance good, but not easy to make at all times, being close to several small low islands.

Crookhaven, too narrow for a large vessel.

Berehaven, very capacious, good holding-ground, water not at all times very smooth; both entrances bad and difficult to find, especially, from seaward, in thick weather; western entrance open to the S.W.

Valentia, the most completely land-locked harbour on the coast; water smooth and deep, with firm holding-ground. North entrance, not bad for steam vessels, but could be much improved by the removal of a sunken rock on the east side.

Tarbert, indifferant, with 25 miles of difficult river navigation.

Galway, at the bottom of a deep bay, much exposed with westerly winds.

5. In and out of Cork, several times; weather sometimes fine, sometimes foul; occasionally with a vessel in tow. In and out of Berehaven, more than once. Out of Valentia, with Her Majesty's schooner "Cockatrice" in tow, laden with meal, weather moderate. Into Galway, H.M.S. "Andromache" in tow; night fine and clear.

6. Not for a powerful steam ship, if her machinery be in good order.

7. Valentia.

8. The approach to the above port is excellent; for the Skelligs, on one side of the entrance to Dingle Bay, and the Blaskets, on the other, are leading marks not to be mistaken. Harbour entrance easy to find. No channel, and little coast navigation, previous to entering the port. It is nearest to America, well to windward. A ship would soon be in harbour when the land was made; soon at sea again.

9. The outer Skellig, which is a most remarkable rock, rising about 700 feet from the ocean, and, therefore, cannot be mistaken when once seen.

10. The outer Skellig lights; the upper light (there are two) in clear weather can be seen from seaward full 27 miles from N. by E. to S. by W.

11. I should feel most confidence in running for Valentia; but on a dark night, and very thick weather, it would not be prudent to run for any of these ports.

12. Cork is rather an awkward port to run for from America, as, after making Cape Clear, there are upwards of 50 miles of dangerous coast navigation. Her Majesty's steam vessel "Blazer" was once caught in a southerly gale dead on shore off Baltimore on her passage to Cork, and with great difficulty got into Castle Townsend harbour after splitting her sails. A heavy sea got up in a short time.

13. Under these circumstance, I should not be backward in running for Dingle Bay, provided the weather and state of the barometer encouraged me to do so. There would be Vintry under my lee on one side, and Valentia on the other; and, if compelled, I believe that a steam vessel, with good ground tackling made snug with a long scope of cable, would ride out a gale in Dingle Bay. I was informed, that the French fleet anchored in line at the entrance of Bantry Bay, from Sheep's Head to Bere Island, in my opinion a much worse place.

14. I should give the preference to Dingle Bay.

Capt. F. V. Brown, R.N.

Capt. F. V. Brown, R.N.

1. Nearly four months.
2. The months of January, February, March, and part of April, 1847, on the coast from Cork to Killybegs.
3.

Cork	Six times.
Long Island	Once.
Crookhaven	Never.
Berehaven	Four times.
Valentia	Once.
Tarbert	Twice.
Galway	Twice.
Dunmanus Bay	Never.

4. *Cork.*—Safe and capacious harbour, so well lighted that it is approachable in a steamer in weather when the land can be made out.

Long Island Sound.—Very safe harbour, and secure from any wind; but the entrance is intricate and difficult of approach by night.

Berehaven.—Perfectly secure and land-locked, easy of access by day, and, if a light was

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Replies to Queries. (No. 7.)

Capt. F. V. Brown, R. N.

placed on the western end of Bere Island, might be safely entered by night, in weather when you could make sure of the land. The Harbour Rock is the only danger of the western entrance.

Valentia.—Fine, safe harbour, when inside; entrance is narrow, but a person with judgment and nerve would find no difficulty in entering by night, if the ship (steamer) was well under command, and the land, so clearly made out as to enable a ship to run for the entrance with *certainty*.

Tarbert.—Secure anchorage; but so far up the Shannon, that by night vessels of deep draught would have difficulty in avoiding the sand banks in the river. It requires a good pilot by day, if at all thick so that there is any doubt about marks and buoys.

Galway.—I do not consider Galway a secure anchorage, for, with the wind strong at south-west or west, a heavy sea sets into the roads. A ship is only secure in the inner harbour. It is approached by two sounds; that to the northward of the Arran Islands is, in my opinion, preferable, but the water is shoal when you approach Mutton Island; and in the night, or thick weather, I should consider it unsafe to run for it in a ship of deep draught of water.

5. Never.

6. I consider the navigation of the west coast is hazardous in the winter season, from the prevalence of violent west and south-west gales, the suddenness with which they come on, and the heavy sea which gets up in a short time. In addition to this, there is much very thick weather, which would render it hazardous to make the land, unless in a powerful steamer during the daylight.

7. I should prefer running for Berehaven.

8. The approach to it is, I consider, most free from dangers; and the coast from Dursey Island to Bere Island is bold.

9. I would steer for Dursey Island.

10. I would steer for the Skellig Lights.

11. I would prefer running for Berehaven in Bantry Bay; for by day, after making the land of Dursey Island, or the Bull, Cow, and Calf Rocks, I should have sea-room to haul off, if unsafe to run. Or by night, upon making the Skellig Lights, I could haul off till daylight and then run in. I do not think any seaman would, without *anxiety*, approach any of these ports in a dark and hazy night in the winter.

12. I would run for Cork, first making sure of Kinsale Head.

13. I should certainly not consider it prudent to run for any of these ports by night in bad weather, with the machinery of a steamer damaged.

14. I would run for Cork as the safest, as, with a gale from west or south-west, I could lay off clear of the land, if circumstances rendered it imperative.

Mr. Jonathan Aylen (Master Attendant, Sheerness Dockyard).

Mr. Jonathan Aylen (Master Attendant, Sheerness Dockyard).

1. Seven months on the coast of Ireland, in command of the "Alban."
Two years in command of the "Rhadamanthus" on the same coast: six months, also, in command of this vessel on the north-west coast of Scotland.

2. "Alban," a part of the winter of 1845, running between Cove of Cork, Kinsale, Crookhaven, Berehaven, Valentia, Vintry Bay, Dingle, Kilrush, Tarbert, Limerick, and Kingstown.
"Rhadamanthus," winters of 1846 and 1847, running between Cove of Cork, Kinsale, Baltimore (Long Island), Skull, Crookhaven, Berehaven, Bantry, Kenmare, Valentia, Vintry, Dingle, Kilrush, Tarbert, Clifden, Galway, Black Sod Bay, Sligo, Loch Swilly, Loch Foyle, and Kingstown. Winter of 1848 moored at Waterford.

3.

Cork	In and out upwards of 200 times,	by day and by night.	
Long Island	8	hy day.	
Crookhaven	7	by day and by night.	
Berehaven	25	by day and hy night.	
Valentia	6	hy day and by night.	
Tarbert	60	hy day and by night.	
Galway	3	hy day.	
Dunmanus Bay	1	hy day.	
Baltimore	2	by day and hy night.	
Bantry (Town)	10	by day.	
Glangadaff	1	by day.	
Ballin, Killing Bay	2	hy day.	
Kenmare	3	by day.	
Vintry Bay	14	hy day and hy night.	
Dingle Harbour	8	by day and hy night.	
Castlemain	2	hy day.	
Kilrush	12	by day and hy night.	
Clifden	3	by day.	
Killabeg	1	hy day.	
Through the Blasket Sound	about 45 times.		
Dursley Sound	6		
Gaskinam Sound (Cape Clear and the Main)	12		

4. *Cove of Cork.*—One of the finest harbours in the world, and of easy access. No danger in running for it in any weather: it is, therefore, in my opinion, the best port in Ireland for a Packet Station.

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REPLIES TO QUERIES. (No. 7.)

Mr. Jonathan Aylen (Master Attendant, Sheerness Dockyard).

Long Island (Skull Harbour) is good, and easy to navigate by day; but at night, or in thick weather, from its being situated in a very dangerous part of the coast, is totally unfit for a Station.

Crookhaven (*see* former Report) is a snug harbour, but is very small, and scarcely wide enough for a large steamer to swing. This port is too small for a Packet Station.

Berehaven (*see* former Report), in my opinion, is not fit for a station; but should it be necessary to select one on this part of the coast, I should prefer running for the anchorage off the town of Bantry.

Valentia (*see* former Report).—This harbour is very good when within it, but the entrance to it is very dangerous. Several vessels have been lost in taking this *harbour at night*. I learnt during my stay there that two vessels were lost in the winter of 1847, and all hands perished in attempting to enter the harbour at night; and several vessels have been lost in attempting its entrance in the day time.

Tarbert (*see* former Report) is a good anchorage, and the best *on this part* of the coast, and fit for a Packet Station.

Galway (*see* former Report).—The docks are good, but the continual heavy sea setting into this bay, with the wind blowing dead on the shore for eight or nine months in the year, often with heavy gales and thick foggy weather, no master in command could run into this bay without great risk of losing his vessel.

Dunmanus Bay.—As I have only been once in this bay, I do not know much of it; but from what I saw, I am of opinion that it is not at all calculated for a Packet Station.

5. Being actively employed on the relief service from the commencement in 1846 to 1848, and *being a pilot* for the different ports, I went *in* and *out* (when practicable by the state of the weather) by night or by day.

6. I do consider the west coast of Ireland *very dangerous* and *very hazardous* in the winter season, from the constant thick foggy weather, with heavy gales of wind and sea, and the prevailing winds the greater part of the year being from the north-west to south-west, which makes it a lee-shore.

7. Cove of Cork (Queenstown).

8. Cove of Cork I consider the best port in Ireland, and can be approached in any weather free of *risk* of *life* or property.

9. Cape Clear, then Old Head of Kinsale, to Roche's Tower, entrance of Cove Harbour.

10. Cape Clear Light, then the Old Head of Kinsale Light, to the light on Roche's Point (Cove of Cork). This light, in my opinion, ought to be altered. (*See* former Report.)

11. *I would not.*

12. *Most decidedly*, without risking life or property.

13. *Yes*, for Cove of Cork, if the wind would allow me.

14. *Cove of Cork;* making Cape Clear *first*, then running along shore for Cove of Cork. A light on Gally Head would, I think, be of great service on the coast between Cape Clear and the Old Head of Kinsale.

Capt. Caffin, R.N.

Captain Caffin, R.N.

1. Part of the summer of 1846, and from January till August 1847.
2. Part of the winter, 1846-47.
3.

Cork	Eight or ten times at least.
Long Island	Once.
Crookhaven	Never inside.
Berehaven	Once.
Valentia	Never inside.
Tarbert	Once detained by a south-westerly gale, for a week or 10 days.
Galway	Never inside.
Dunmanus Bay	Never inside.

P.S.—I have passed and repassed all of these harbours frequently; not having my diary with me, the above information is from memory, and I cannot remember for certain how often I have been in them.

4. Cork is a most excellent harbour, capable of receiving a very large fleet, and might be run for in almost any weather, if clear. With a westerly or south-westerly gale there is a heavy sea off the entrance of Long Island. Is a good harbour when inside; but in a westerly or south-westerly gale the sea breaks frightfully in the bay, that is between Mizen Head, Fastnet Rocks, and Cape Clear. Crookhaven I always avoided, as being small for the "Scourge" to enter with safety. It certainly could not be run for in a southerly gale. The "Scourge" is 1,100 tons, drawing 16 feet water, and 212 feet long. Berehaven, is an excellent harbour, well sheltered, and may be run for by day, in any weather. Valentia has an ugly entrance, and I always avoided this harbour as a place of shelter. Tarbert: the Shannon may be run for in any weather provided you can make out the land, and this you may do (either Brandon mountains or Loop Head) a long way off. In a westerly or south-westerly gale, you get out of the heavy sea as soon as you pass the Blaskets, and you may either anchor in Carrigaholt roads for the night or go up to Tarbert, where you have perfect shelter. Dunmanus Bay, is quite open and exposed to westerly winds, and could afford no shelter to ships of the class of transatlantic steamers.

5. Never. Always avoided it.

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Replies to Queries. (No. 7.)

6. Very dangerous, owing to fogs; lee-shore; irregular coast; heavy sea; no good pilots.
7. If the weather was fine I would take the nearest, Bantry Bay; if blowing a gale from the west or south-west, I would prefer steering for the Shannon, in order to get soonest into smooth water. If blowing a gale from the north or north-west, I would steer for Cork for the same reason.

Capt. Caffin, R.N.

8. See answer No. 7.
9. Cape Clear, if Bantry; the Old Head of Kinsale, if Cork; the Blaskets, if the Shannon.
10. Cape Clear, if Bantry or Cork; the Skelligs, if the Shannon. In trying to make the coast of Ireland in the night, unless the weather was very fine, I would not feel myself justified in going into less water than 60 fathoms.
11. In a dark or hazy night in the depth of winter, most unquestionably not. I should consider myself reckless and highly reprehensible in doing so. In a fine clear night, having made out the land before dark, I might be tempted to do so; but I would consider I was acting the more prudent part by waiting for daylight.
12. Most certainly not; the entrance to Cork harbour is narrow, and the channel between the shoals tortuous, requiring daylight (or a very fine moonlight) to make out the buoys, which mark it off.
13. I should not (as stated above) feel justified in doing so, in command of a steam-vessel of such a size, with her machinery in perfect order; and in proportion to the damage and disability of the steamer, I would be the less disposed to run the risk.
14. Cork; where I might be able to get slight repairs made good.

My Lord, *Anderton, near Devonport, November* 30, 1850.

I have the honour to acknowledge the receipt of your communication of the 25th instant, by this day's post, with its accompanying queries from the Transatlantic Packet Station Commissioners, and beg to inform you that during the period of my service in the "Cyclops" on the west coast of Ireland, from January 1844 to June 1845, my station as senior officer was principally at anchor at Tarbert, and consequently I had no experience on the coast to enable me to reply to the proposed queries.

Capt. Lapidge, R.N.

I have, &c.,

The Lord Hobart. W. F. Lapidge, *Capt. R.N.*

My Lord, *Ripple Vale, near Deal, December* 3, 1850.

I beg to acknowledge the receipt of your letter, dated the 23rd of November, and regret, that on account of my being from home your letter did not reach me until last night.

In reply, I have to state, that it would at all times give me the greatest pleasure (as it is my duty) to give every information in my power to the Transatlantic Packet Station Commissioners; but as I was only stationed on the coast of Ireland from the beginning of February 1847, to the beginning of October 1847, during which time I only had the opportunity of knowing the coast between Westport and Blacksod Bay, only having once entered the port of Cork, and once the port of Galway, I therefore consider that I have not sufficient experience to warrant me in giving an opinion upon the queries you have sent me.

I have, &c.,

The Lord Hobart. J. T. W. French, *Commander.*

Lieutenant Church, R.N.

Lieut. Church, R.N.

1. Thirteen years, off and on.
2. Three winters on south and south-west coast. No winter north of Shannon.
3.

Cork, I can reckon	98	times.
Long Island Channel	26	„
Crookhaven	19	„
Berehaven	16	„
Valentia	13	„
Tarbert	7	„ entered Shannon.
Dunmanus Bay	9	„
Galway	Never.	

I can reckon these numbers of times running, sailing, or beating into these places with steamers or sailing vessels; have been running in very bad weather in *daylight* for Long Island Channel, Crookhaven and Berehaven, and in several very heavy gales dead on shore, with thick weather, for Cork; besides which, the times I have passed out and in with boats, and traversed soundings, are too numerous for record.

4. My opinions of these ports have been given in the replies forwarded by me on the 30th November, 1850, with the exception of Crookhaven. I am not acquainted with Galway.

Opinions of Crookhaven.—I consider the situation of Crookhaven as superior to that of any of the other western ports, from its fine position at the S.W. angle of Ireland; its proximity to the Fastnet light, and that the conspicuous headlands of the Mizen and Brow, to the westward, and Cape Clear Island to the S.E., all render its locality unmistakeable. The

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REPLIES TO QUERIES. (No. 7.)

Lieut. Church, R N.

peninsula forming Crookhaven and terminating in Streek Head, with its outlying Alderman Rocks, stands out so well in relief from the back land, that any man of observation, who has once seen the place, can be at no difficulty in descrying its position from sea.

The entrance of this little harbour may be considered safe at all times for a steamer, more particularly as it has the advantage of a light; but the internal capacity in space and depth can scarcely be regarded as sufficient for a great ocean steamer.

It is true, that if the place were unoccupied by other vessels, that there is sufficient room to pass in the entrance, and proceed as far up the gorge as the Coast-guard Station; but there is not sufficient room, in my estimation, for such a large ship to bring up with an anchor, and to *swing* to it, a matter that may become necessary at times anywhere. In the more spacious internal part of the harbour, such a vessel would be afloat only at high water about the spring tides.

In easterly winds of any continuance, this valuable little harbour is commonly crammed with vessels bound to the eastward, which might often interfere with such a vessel passing much higher into the harbour than abreast the lighthouse.

If Crookhaven were in England, it is possible that great improvement would be made in it, by filling up the sound between the Alderman Rock and Streek Head, and by dredging a deep space in the internal part of the harbour. It is probable, too, that arrangements would be established to moor vessels to ringbolts lodged in the cliffs of the south shore; an anchor being also dropped in the middle of the harbour, they could be berthed in such a manner along the south side, as to leave a sufficiently clear passage north of them; but in its present condition, sufficient room cannot be calculated upon for the passage of very large steam-ships, if the place be crowded with vessels. Even if these arrangements were made, I do not think that the place affords sufficient space for such a vessel to anchor and veer a good scope of cable.

It is a matter worth consideration, whether the lighthouse should be placed on the Alderman Rocks, instead of in its present position on the north side of the entrance. There would certainly be some difficulty in making a foundation on the Alderman Rocks, as they are very narrow parallel ridges of slate rock, with gulleys of water between them.

It is the belief of people belonging to the place that the internal part of Crookhaven is shoaling.

5. I have entered Cork harbour about half a dozen times at night. Long Island Channel three times, generally in moderate weather, but often dark. Crookhaven four times, once in mild weather. Berehaven five times at night, generally moderate, but very dark. Dunmanus Bay I entered twice at nightfall, once in a fog, the second time very dark. I never entered Valentia at night. Shannon entrance, never at night; but when surveying inside the entrance of Shannon, I have a few times entered Tarbert roads at night.

6. To an efficient steamer, *stationed* on the coast between Cork and the Shannon, I do not consider it dangerous, on account of there being so many harbours of refuge, and on account of the land being bold and conspicuous, with few outlying dangers. But in a winter night, and very bad weather, I consider that coming in from the ocean, after a long voyage, *before making out any light, or well-ascertained headland*, that it requires great caution, on account of the deficiency of sea and harbour lights, and because a high Atlantic sea is a bad companion when endeavouring to make the land. Moreover, I consider a coast that lies at right angles to the course from America is not altogether as safe to run for, in thick weather, as a coast that lies in an oblique direction to the course, or nearly parallel to it.

7. In the present condition of the coast with respect to lights, I would prefer running for Cork.

If a sea light were placed on the Bull Rock off the Dursey Head, and *both* entrances of Berehaven efficiently lighted, I would have no objection to run for Berehaven in the winter season.

I consider, also, that with proper lights, &c., at Long Island, that it would be sufficiently safe in the winter.

Every thing considered, I would at present prefer running for Cork.

8. My reasons for preferring to run for Cork in the winter season are, that I consider the Fastnet Rock and light the best object to make for in coming from America in winter. That after making the Fastnet, the position is verified, and the progress of the vessel ascertained by sighting the Old Head of Kinsale light, and that, from thence, there is but little hazard in pushing for the fine entrance of Cork harbour.

9. I would steer a direct course, to endeavour to make the Fastnet right ahead. It is a bold black mass, 93 feet above high water; 370 feet long in the direction of E. N.E. and W. S.W., 200 feet wide north and south. In approaching it from the westward, it will present a breadth (together with a low rock, close adjacent on its south side) of about 300 feet, and the Light-tower, now built (summit about 170 feet above the sea), renders it a most remarkable object.

In running along the coast from the Fastnet to Cork, there will be sighted, in succession, Cape Clear Island, Stag Rocks (about 70 feet high), off Toe Head, Galley Head, Seven Heads, Old Head of Kinsale, Robert's Head, and the entrance of Cork harbour, rendered remarkable by the high, bold bluff of Dogsnose, crowned with Carlisle Fort, and by the light-house on Roche's Point. Cork harbour is "blind" from the S.E.

10. First, Fastnet (when exhibited). I presume Cape Clear light will be abolished. Secondly, Old Head of Kinsale light*; lastly, Cork light.†

* The Dublin Ballast Office is now shifting the Old Head of Kinsale light to the outermost point of the head—at present it stands more than half a mile inland, and is considered too high.

† The light on Roche's Point, at entrance of Cork Harbour, is not good. It is a red light to seaward, and very dim in thick weather.

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Lieut. Church, R.N.

On approaching Cork harbour, the new light on Ballycotton Island, 10 miles to the eastward (to be exhibited next summer), will come into view in moderately clear weather.

11. I am not acquainted with Galway. Under circumstances of a dark and hazy night, blowing heavily in winter upon the shore, I would *not* run for those places, nor for any other harbour whatever, unless the light at the entrance of the harbour was in sight, and that I was quite sure of my position.

If Loop Head light was in sight, I would, under those circumstances, with a powerful and efficient steamer, run up the Shannon.

If a light ship, moored off the Carrigavaddra Rocks at east end of Bere Island, was in sight, I would under similar circumstances run for the east entrance of Berehaven.

If a light on the east end of Long Island was in sight, I would under similar circumstances run for it.

Under circumstances of heavy winter gales blowing dead on the shore, in a dark and hazy night, I would *not* run in from the ocean to make these lights; I would lay the ship's head off shore, at what I considered a prudent distance, to await daylight.

12. Not unless I was quite sure of my position, by having sighted the Fastnet, or Old Head of Kinsale lights.

Coming from *a long voyage*, and approaching the land, I would *not* in a dark and hazy winter night, blowing a gale upon the shore, run to make out either of these lights. I would prefer to lay the ship's head off shore till daylight.

13. Under such circumstances, I would keep the vessel's head off shore until daylight, if it were possible, unless the lights at the entrances were in sight.

If Cork light was in sight, or even the Old Head of Kinsale light sighted, with *a fair wind*, and the vessel *sufficiently under command* with canvas, I would run for Cork.

If Bantry Bay was efficiently lighted, I would, under similar circumstances, viz., *light in sight and fair wind*, run for it, because I should have choice of refuge at Glengariff, or round the north end of Whiddy Island, if I preferred either to Berehaven.

If Long Island had a light at its east end, and *in sight, I would* with a fair wind, and the vessel sufficiently under command, run for it.

If Loop Head light was in sight, and the wind blowing straight in, I would also run for the Shannon.

In *daylight*, at present, there are circumstances of heavy gale blowing *directly* up Dunmanus Bay, that I would run a steamer (whose machinery was disabled) under canvas to the head of the bay at Dunbeacon.

14. With disabled machinery, I would steer for the Fastnet Rock. On making it, if the wind was sufficiently to the westward to enable me to command the passage to Cork, I would proceed there.

If on making the Fastnet, with machinery disabled, I should encounter a gale from south to S.E., I would take shelter in Long Island Channel or Berehaven, preferring the former, if possible. Although Crookhaven may be considered too confined a place for a packet station, yet there are circumstances of S.E. gale, that if I were in the neighbourhood of the Fastnet, disabled in machinery, and doubtful of being able to fetch Long Island, east end, I might be induced to run for Crookhaven, under the belief that, with correct local knowledge, I should be enabled to save the ship there.

I must remark that, although I regard Cork to be the safest port under most circumstances to run for, in coming from America, yet I consider the coast between Cape Clear and the Old Head of Kinsale to be by no means safe, as a lee shore, with a disabled vessel of great magnitude, there being no harbours of refuge fit for such along it.

Lieutenant Charles Ladd, R.N.

Lieut. Charles Ladd, R.N.

1. Nine or ten months (on the "Relief Service").
2. Two in 1847 and 1848 (principally on the S.W. coast).
3.

Cork	. . .	On an average (weekly) for several months.
Long Island	. .	To take advantage of smooth water when going to and from Schull or Ballydehob to Crookhaven, &c.
Crookhaven	. .	Seven or eight times.
Berehaven	. .	Five or six times.
Valentia	. . .	Four times in the "Zephyr," and twice before in Her Majesty's barque "Skylark."
Shannon (Tarbert)	.	Twice in and out of the Shannon, and three or four times from Kilrush to Tarbert.
Galway	. . .	Never.
Dunmanus Bay	.	Twice.

4. *Cork.*—I found the Cove of Cork accessible at all times of tide for vessels of any class, and the channel being well buoyed off up to Haulbowline Island, admits its being called the largest and best port on the *south side* of Ireland; but being so, is evidently too far away from the nearest, which Transatlantic Packets ought to make on their way from America to the western division of the kingdom.

Long Island.—Affords shelter in all winds at any time of tide, and for vessels of any size when unable to keep an offing, or wind-bound; but both entrances being narrow, the sound must be approached with caution, and a pilot or person who knows the coast well.

Crookhaven.—This harbour is long and narrow with very little depth of water (except at

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REPLIES TO QUERIES. (No. 7.)

Lieut. Charles Ladd, R.N.

the entrance part), and like Long Island Sound, is by no means suitable for a Transatlantic Packet Station.

Berehaven.—Has depth of water at all times of tide for vessels of any size, and affords shelter to them in all weathers. The western entrance is narrow, but bold-to, and with a bright-red fixed light on the island side, and a green one near Castletown (as a leading light to the anchorage), it might be used as a Transatlantic Packet Station better than any other inlets or harbours thereabout (where in strong westerly gales the sea rolls in heavily). Vessels from America would make the Skellig Lights, and then steering away to pass the lofty islets, Bull, Cow, and Calf, would open that red light on Bere Island, and run for the anchorage accordingly.

Valentia.—Is a large and land-locked, but generally shallow harbour, affording shelter in all winds and at any time of tides for vessels of the largest size (particularly between the islands of Beg Innish and Valentia); the entrances, however, are both very narrow. The most wide, with its lighthouse on Cromwell Fort, on the one hand, with rocks projecting from Beg Innish on the other, is not well calculated to receive large unwieldy vessels in strong gales from N.W., when the heavy rolling sea breaks fearfully across, and which (in such cases) would generally prevent powerful steam-vessels getting out also, without imminent risk; while the eastern entrance, called Port Magee, will only admit vessels of light draught of water.

To land the mails from Halifax promptly, I was some years since twice enabled, with a pilot and commanding breeze, to beat up to the anchorage in Her Majesty's barque "Skylark," and (assisted by several shore boats) that vessel was once (in a calm) towed out again to an offing through the winding channel of Port Magee, and where I have since gone in and out again, in Her Majesty's steam-packet "Zephyr," with meal.

Tarbert (in the River Shannon).—The entrance to the River Shannon, from Kerry Head to Loop Head, is wide, deep, and bold-to, well up to the harbour lightbouse, and being the nearest port (with deep-water clear entry) to America, accessible to large vessels at any time of tide, with good anchorage at Carrigaholt, Scattery, and Tarbert, it seems the best place thereabout for a Transatlantic Packet Station.

Galway.—Having left Her Majesty's packet "Zephyr," when that vessel went on to Galway with meal, I am unable to give an opinion as to its capabilities in every respect, for a Transatlantic Packet Station, further than by an "Atlas Chart," and "Coasting Pilot" book, now before me, and from which the approaches thereto appear difficult to navigate, while water in sheltered places is shallow.

Dunmanus Bay.—Is a deep-water, long inlet, with little or no shelter in westerly winds (when a heavy sea rolls in), until the head of the bay is reached, passing Carberry Island, and then only for a few moderate-sized vessels, carefully moored at Four-mile-Water, consequently unfit for a Transatlantic Packet Station.

5. When ordered from the Packet Station at Holyhead to go on the Relief Service, I entered the Cove of Cork at night in Her Majesty's packet "Zephyr," and while conveying provisions from Haulbowline to the port on the S.W. coast, three or four times afterwards.

6. Being a lee shore, in all westerly winds, when sea from the Atlantic rolls in, breaking heavily on a bold rocky shore, adding mist to similar weather then common, the west coast of Ireland in the winter season is sufficiently dangerous everywhere to require great caution and good look out.

7. If not directed to any port in particular, I should steer for Cape Clear, and go on to Cork, as water is generally more smooth on the S.E. side at that season of the year; otherwise (in a powerful steam-vessel in good order), I might as well shorten my distance 180 miles, and run for the Shannon.

8. Replied to against question the 7th.

9. If bound to Cork, Cape Clear; if to the Shannon, Kerry Head; if to Berehaven, the Skelligs.

10. If bound to Cork, Fastnet Rock light; if to the Shannon, Slyne Head lights; if to Berehaven, the Skellig lights.

11. The Shannon. The approach thereto being deep and wide, lofty land, bold-to, with a chance of making use of the Loop Head and harbour lights towards an anchorage.

12. In the case above named (question 11th), and bound for the Shannon (for instance), with machinery in good order—no, seeing no good reason for extending the voyage.

13. For the Shannon or Cork—yes; wind being fair.

14. As machinery for steam-vessels is at present more accessible at Cork than any other of the ports named, I should, when so coming from America, in heavy westerly gales and hazy weather, keep an offing sufficient for Cape Clear, and proceed in more smooth water towards Queenstown; but when all sorts of machinery for steam-vessels can be as easily gotten in the Shannon, I should not hesitate proceeding into that river, to save 180 miles accordingly.

Lieut. R. H. Risk, R.N.

Lieut. R. H. Risk, R.N.

1. Three years and two months.
2. Three winters.
3.

Cork	Thirty-five times.
Long Island	Once.
Crookhaven	Four times.
Berehaven	Three times.

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Replies to Queries. (No. 7.)

Lieut. R. H. Risk, R.N.

Valentia	Once.
Tarbert	Five times.
Galway	Once.
Dunmanus Bay	Once.

4. From my own experience I would run for any of the above-named ports, if the weather was at all clear; but I certainly think, that none of the ports on the west coast of Ireland could be run for in all kinds of weather, day and night during the winter season, without very great risk to life and property; therefore, taking all points into consideration, the advantages of Cork are much greater than any of the above-named ports.

5. Yes; Cork repeatedly, in all kinds of weather met with on the coast of Ireland.

6. Very; especially to those vessels which, to ensure punctuality and despatch, are obliged to run for their ports under every circumstance of weather.

2nd. For not having the same definite soundings on the west coast to confirm your position in thick and bad weather, as there are on the south coast and English Channel.

3rd. From the mountainous sea that runs during westerly gales, which prevail very much during the winter season. Should you miss your port it would be at great risk of the machinery to attempt to get off the land again, and should the machinery fail, total loss of the vessel must be inevitable.

7. Cork.

8. 1st. It can be entered in all weathers, and at any time of day or night. 2nd. It is very easy of access. 3rd. The soundings about the south coast of Ireland can be more depended upon for confirming your reckoning, should weather or unforseen circumstances place you in doubt of your position. 4th. No weather that Cork is subjected to would prevent the mails being landed by day or night.

9. Cape Clear.

10. The Fasnet.

11. Certainly not.

12. Yes.

13. It would not be prudent; but if obliged to run for any of the ports, I should prefer Cork.

14. For Cork.

Commander Bower, R.N.

Commander Bower, R.N.

1. From January 1844 to February 1845.

2. Nearly the whole time on the west coast.

3.

Cork	Twice.
Long Island	No.
Crookhaven	No.
Berehaven	Twice
Valentia	Not having my logs with me, I cannot state exactly how often I have been in Valentia. I was stationed for many months between Dingle and Valentia, and I think about once a week I was in and out of Valentia.
Tarbert	Perhaps about twelve times; but for the reason stated above, cannot say exactly.
Galway	Twice.
Dunmanus Bay	No.

4. Cork is one of the finest harbours in the kingdom. Berehaven is perhaps the best harbour in Europe, it certainly is the best I have been in. Valentia is a beautiful harbour when you are once inside, but there is a heavy sea that sets in to the mouth of the harbour when it blows hard directly in; and it is very narrow, with a sharp turn directly at the entrance.

5. No.

6. Not more so than other coasts in the same latitude would be in bad weather.

7. Tarbert.

8. I could always run for Loop Head, then up the Shannon to Tarbert, in the darkest night and worst weather.

9. Loop Head.

10. Loop Head.

11. I would boldly for the Shannon. The others, as far as my experience goes, certainly not.

12. Yes.

13. For Cork or the Shannon, yes; but in blowing weather from the westward, if you get into Dingle Bay with a view of getting into Valentia, if you missed Valentia, and your disabled machinery could not take you to sea again in the teeth of the gale, you must perish. I have another objection to Valentia; when it blows right into it there are tremendous breakers on each side the entrance; if the curling top of the sea should lift the stern high enough to lessen the power of rudder for one moment, you would perish.

14. The Shannon.

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REPLIES TO QUERIES. (No. 7.)

Lieutenant G. T. C. Smith, R.N.

Lieut. G. T. C. Smith, R.N.

1. From March 1843 to October 1847.
2. The whole of one winter, and part of a second.
3.

Cork . . .	Over twenty times.
Long Island . .	Through Long Island Sound into Skull Harbour, once.
Crookhaven . .	Five or six times.
Berehaven . .	Three times.
Valentia . . .	Seven or eight times.
Tarbert . . .	Four times.
Galway . . .	Three times.
Dunmanus Bay . .	Never.

4. Cork is too well known as a good harbour to need any remark from me.

Long Island is a snug harbour, but objectionable on account of some rocky shoals about it.

Crookhaven is a safe little harbour, but too narrow to ride in with any length of cable out, and the water runs up very shallow at the head.

Berehaven is a very excellent harbour, especially for steamers, which may defy the heavy gusts of wind that come off occasionally from Hungary Hill.

Valentia is also a very capital harbour, and might be made far more easy of access by blasting the rock (sunken) at the northern entrance of it.

Tarbert, with good moorings, might be made a first-rate anchorage, and is a capital port; the only objection is the strong eddies which run there.

Galway is more a roadstead than a harbour for a larger vessel, and requires much care in approaching; and, in my opinion, is less preferable than any of the foregoing ports.

5. I have entered Cork and Valentia Harbours twice in the night, and on one occasion towed H.M.S. "Andromeda" into the latter harbour with nothing but the lighthouse as my guide, there being neither moon nor stars out at the time, and a fresh breeze blowing from the westward. I bore up for Valentia, with the "Andromeda" in tow, in consequence of the wind, which blew too fresh to make headway against it.

6. I do not consider the navigation of the west coast very dangerous, or much more hazardous in approaching than the west coast of England. Fogs are, however, frequent, and of course the navigation at such times requires every care, especially as the soundings are of little use as a guide to your locality.

7. First, the Shannon. Second, Valentia.

8. I give the preference to the Shannon, because Loop Head is a good headland, and hold close-to, and is easily made out by the lighthouse on it; after passing which Kilkadcaun lighthouse guides you safely to its entrance, and the navigation from thence to Tarbert is easy.

9. Loop Head.

10. Loop Head lighthouse.

11. Provided *I was sure* of the reckoning of the vessel I commanded, I would not fear running for either the Shannon, Valentia, or Berehaven; but I should not like to try Galway in a vessel drawing so much water.

12. No; not in preference.

13. It would depend *entirely* on the defect in the machinery; of course it would not be wise to risk a lee shore; if the defect was of such a nature as to be likely to cause a break down, if necessary to keep off shore against a strong gale.

14. It would depend on the wind, and state of the weather. I know no safer port to run for on the north and west coasts of Ireland than Killyhegs, Blacksod Bay, or the Shannon.

Lieutenant E. E. Turnour, R.N.

Lieutenant E. E. Turnour, R.N.

1. Two years and a-half.
2. Never a whole winter; but in the first year, from December 11, 1848, to February 24, 1849; and in the second year, from November 28, 1848, to December 30, 1849.
3.

Cork . . .	At least twenty times.
Long Island . .	Passed through the Sound once.
Crookhaven . .	Four or five times.
Berehaven . .	Anchored one night inside the eastern entrance.
Valentia . . .	Once.
Tarbert . . .	Perhaps twenty times.
Galway . . .	Very often.
Dunmanus Bay . .	Once.

4. Cork is a safe, spacious harbour, accessible at any time.

Crookhaven is narrow, but an excellent harbour, and easy of access.

Valentia, the entrance is very narrow, and, I should conceive, difficult to enter at nighttime, in thick weather (though there is a good light there), and could not be approached, in very thick weather, in the daytime.

Tarbert is easy of access, but I should not recommend it in the winter months as a good anchorage.

Galway has excellent holding-ground, but there is a great swell in south-west gales.

5. I have often steamed into Cork Harbour at night, and several times when the atmo-

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sphere was so dense that I could not see more than two ships' length ahead. I have also steamed to and from Galway at all hours of the night, and in all weathers, with perfect confidence.

Lieutenant E. E. Turnour, R.N.

6. The west coast of Ireland is quite bold, and the dangers are all visible. It is, in the winter season, a disagreeable coast to cruise off, on account of the very heavy sea which the prevalent west winds occasion; but I do not consider it, for a steam-vessel, more dangerous than other coasts.

7. Cork Harbour.

8. It is easier of access, and more commodious than any of the other ports, except Galway, and, when inside, affords shelter from all winds. To run for Galway in a south-west gale would not be more difficult, but the vessel would be exposed to a heavy swell after she had brought up at the proper anchorage.

9. Cape Clear.

10. Cape Clear.

11. Having once made the land, I should not be deterred from proceeding either to the Shannon or Galway, though the night should be dark, hazy, or tempestuous; but I should not attempt Valentia or Long Island, nor even Bantry Bay.

12. Yes.

13. Under these circumstances, much would depend upon the sailing qualities of the vessel, should her engines become useless, and upon the wind; and I should prefer lying-to until daylight, if practicable.

14. Cork Harbour.

Lieutenant Goss, R.N.

Lieut. Goss, R.N.

1. Three years.

2. Two years.

3. I have no book of reference.

Cork . . .	About twenty times.
Long Island . .	Nil.
Crookhaven . .	Several times.
Berehaven . .	Often. Once nearly lost with Her Majesty's ship "Trinculo," running into the south-west entrance.
Valentia . . .	Nil.
Tarbert . . .	Nil.
Galway . . .	Often.
Dunmanus Bay .	Two-and-a-quarter years' experience in Coast Guard, being stationed in this port, and having recommended it to Lord Bernard, who brought the Packet Station question before Parliament.

4. Crookhaven.—Too small. Order Commodore Martin's squadron in there, and you will find it is very far too small for what is required of a Packet Station.

Long Island.—Too dangerous to run for, on a dead lee shore, with rocks in its way.

Berehaven.—A fine harbour within, but very difficult indeed of approach.

Galway.—No anchorage at all, except in fine weather.

Dunmanus.—Always easy of access. A disabled vessel can at any time run for it, which they cannot do for any other port along the whole coast. With all my earnestness I recommend very serious attention to this fact. A light is required, whether for packet service or as a harbour of refuge.

5. Once only, at Berehaven, and then nearly lost.

6. No.

7. Dunmanus.

8. As it is the only harbour along the whole coast into which disabled vessels could run, it is obvious that for all other vessels it has no obstruction.

9. Either the Three Castle or Sheep's Head.

10. You must erect a light.

11. A sea lubber only. By so doing have all our great steam disasters occurred, including the last one in the Thames. A seaman would not run of a dark hazy night, knowing himself to be near his destination, until he had picked up a landmark or light.

Galway . . .	Too dangerous.
Shannon . . .	I have no experience of it.
Valentia . . .	A lunatic in the last stage only would conceive such a notion.
Bantry . . .	No.
Long Island . .	No.
Dunmanus . .	I would, saving in thick hazy weather.

12. Attended with great danger. Certainly not in hazy weather.

13. Yes, for Dunmanus.

14. Dunmanus.

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REPLIES TO QUERIES. (No. 7.)
Lieut. Carter, R.N.

Lieutenant Carter, R.N.

1. Twenty-two years in command of the Revenue cutters "Hamilton," "Chance," and "Badger."

2. Seven years on the west coast and fifteen years on the south-west coast, both winter and summer.

3. The first four; and the last of those harbours I have visited repeatedly, in all weathers and at all times.

I am also well acquainted with Valentia, but seldom use it as a harbour (unless compelled, or ordered there with stores), from the difficulty I have frequently experienced in getting either in or out.

Tarbert is about five miles further up the Shannon than my duties lead me, which is seldom above Kilrush.

Galway Bay I have visited about seven or eight times.

4. Cork is well known to be a most excellent harbour; and at present being so well lighted and buoyed, has an advantage (in that respect) over the more western ports.

Long Island Sound is also an excellent harbour, affording plenty of room, in perfect smooth water, and no tide. A vessel can choose her depth, and can enter or leave it in any weather.

Crookhaven is a small harbour, very narrow, scarcely room for a large steam-ship to swing (even with moorings). In easterly winds this harbour is so crowded with merchant vessels, that I have found much difficulty in getting in and out, even in a small cutter.

Berehaven is of great capacity, smooth water, little tide, and could be taken at all times by a steam-ship.

Valentia I consider to be a very dangerous harbour to run for, from its narrow entrance, strong tide, and heavy breaking sea in a westerly gale. I doubt even the power of steam to overcome the difficulties of entering or leaving that harbour in bad weather, without the risk of both ship and passengers.

Tarbert.—I cannot give a correct opinion of this anchorage, my experience of the Shannon being confined to below Kilrush; but that river is deeply embayed, with a wild iron-bound coast on each side thereof,

Galway Bay.—Inside of Arran Islands I have not had much experience, my visits therein being confined to a limited number of times during the summer months; but outside of those islands I have had much more experience, and I know no part of the coast of Ireland more difficult to approach or to make than from thence to Slyne Head. The rocks and breakers extend far off the land, whilst the shore of Mall Bay is both deep and dangerous.

Dunmanus Bay is easy of access, and could be taken by a steamer at all times. Two bold headlands form its mouth, which cannot be mistaken.

5. In cruising on the coast I have frequently, and at all hours, left the harbours of Cork, Long Island, Crookhaven, Berehaven, and the Shannon, and have run for each in bad weather (in the night). I have also entered Valentia in the night, but never left it without daylight.

6. The west coast of Ireland is proverbially a dangerous navigation (in the winter season), from the heavy ground sea of the Western Ocean continually rolling in on its shores. I have seen, even in moderate weather, the sea break terrifically in 22 fathoms of water; and it is a common occurrence for it to break in 12 fathoms. It is also much obscured by fogs, and its shores abound in outlying rocks, small islands, and broken patches. The south-west coast is much more favoured; the sea considerably smoother, as most of the north-west swell is turned off by the Blaskets and other projecting headlands; less fogs; the coast bold and high, with but few outlaying dangers. I consider the coast of Cork particularly easy to make; and I believe (at present) it is seldom passed by the transatlantic steamers without being seen both on their outward and homeward voyages.

7. Berehaven or Long Island Sound, provided they had the advantage of lights; but in the absence of those requisites, and in the night, probably Cork.

8. In coming from the westward, both those ports would be near to the first land seen. The coast is most remarkable: the Bull, Cow, and Calf, with the Dursey Head and Mizen, could not be mistaken. They are all high and bold; and should Berehaven be accidentally passed in thick weather, Bantry Bay has the advantage of two safe harbours in its bight. In running for Long Island, the same headlands, with Cape Clear, would be a sufficient guide; but in the absence of a light to mark the harbour, I would prefer running for Cork in the night time.

9. Already answered in Query No. 8.

10. The harbour light at the east entrance of Berehaven for that harbour, with the chance of making the Skelligs and Cape Clear. Crookhaven harbour light and Cape Clear or the Fastoets as a guide for Long Island Channel.

11. If I were compelled at all hazards to run for a port, I would prefer running for Bantry Bay, because the coast is bold, and cannot be mistaken when seen; but there are times when prudence would not justify running through thick and thin, when speed is slackened—as is now the case by the packets on approaching the Liverpool banks or the Needles in dark, thick weather.

12. The only advantage I perceive in running for Cork would be from the chance of making some of the headlands in thick weather, should she pass Cape Clear; but I submit that running along the land has its disadvantages also, as the "America" steam-ship, on her last voyage from New York (about a month since), ran on shore in Ross Bay, when supposing herself going up channel.

13. I presume that, with machinery out of order, the sooner she could get a harbour after first approaching the coast the better; and then Bantry Bay has every advantage from the

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reasons already stated. The harbour of Berehaven possesses two entrances; and should a vessel be blown past the island, there are still two fine harbours in the bay to afford her shelter, or she might anchor in the middle thereof.

Lieut. Carter, R.N.

14. I would try for Bantry Bay; Galway or Valentia, with a crippled ship, would be quite out of the question.

Commander Kelly, R.N.

Commander Kelly, R.N.

1. Forty years, in active service.
2. From fifteen to twenty.
3. Cork . . . Very frequently.
   Long Island . . Once.
   Crookhaven . . Several times.
   Berehaven . . Frequently.
   Valentia . . . Frequently.
   Tarbert . . . I have to there once, but frequently in the Shannon, as far as Scattery Roads.
   Galway . . . On the station for three or four years.
   Dunmanus Bay . Never.

4. Cork.—One of the best in Europe: spacious, well sheltered, and protected. Very good anchorage and holding-ground, with deep water.

Long Island is well sheltered, and good holding ground with moderate water.

Crookhaven is well sheltered, and good holding ground, with moderate water, but narrow.

Berehaven.—Spacious, well sheltered, deep water, and good holding ground.

Valentia is a safe harbour when in, but the entrance is narrow. Well sheltered, good holding grounds, and tolerable deep water.

Tarbert.—Well sheltered, and deep water.

Galway is a spacious, fine bay, about 30 miles deep, with the Islands of Arran acting as a natural breakwater, and three good clear channels for ingress and egress, and has a good roadstead inside of Mutton Island (or Galway Roads), with good holding ground, and sufficient water.

5. Cork . . . I did, in and out frequently, under different circumstances, with fair and head winds.
   Long Island . . Never.
   Crookhaven . . Once, with fair wind.
   Berehaven . . Entered frequently, for shelter.
   Valentia . . . Entered frequently, with fair and head winds.
   Tarbert . . . Never.
   Galway . . . Frequently, in and out under all circumstances, and in various weathers.

6. I do; dangerous and hazardous. The prevailing wind is from the south-west to the north-west, making the west and south-west coast a lee-shore in gales of wind from the above quarters, with a heavy Atlantic sea, and very often thick, foggy, or hazy weather.
7. Cork.
8. Because I consider Cape Clear the safest port to run for in all weathers, as offering the least surface of a lee-shore, and a clear drift to the south-east; and in case of missing Cape Clear or the Light in the dark or hazy weather, I have an opportunity of making the Old Head of Kinsale or Light, or Roach's Tower or Light.
9. Cape Clear, if possible.
10. Cape Clear Light, if practicable.
11. No.
12. No, not fearlessly, without making land or light to ascertain my precise position.
13. I would prefer taking an offing till daylight, if possible; if not, I would run for Cork, provided the vessel was under good command, and the light seen.
14. Cork.

Mr. Patrick O'Halloran.

Mr. Patrick O'Halloran.

1. From 1820 till 1824, continually surveying and sounding the harbours and bays, and at sea, weather permitting, in making out Sir N. Nimmo's chart of the north-west coast.
2. Twenty-six winters and summers, day and night, on the west and north-west coast of Ireland as pilot.
3. Frequently in all those ports and harbours; mostly in or near the ports of Galway and Limerick. For 26 years I have taken ships of all descriptions into Galway Bay and Harbour day and night, in all weathers, and never lost a ship.
4. In Galway Bay we have little or no tide to contend with.
5. In favourable or sailing weather nothing would stop me from going into Galway Bay, day or night—having no sunken rock or shoal to contend with: all danger is visible.
6. By no means; as it is well protected with lights and good harbours.
7. Galway, decidedly; having plenty of sea-room, and no tide to contend with, until I reach the town of Galway.
8. As being nearest to America, and having good shelter, good anchorage, and an excellent wet dock.

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Replies to Queries. (No. 7.)

Mr. Patrick O'Halloran.

9. Slyne Head, or Loop Head, or the Island of Arran.
10. Slyne Head Light, Loop Head Light, or Arran Light.
11. I would, for Galway. There is a strong fresh tide out of the Shannon. I would not run for the Shannon, particularly in winter. Valentia is narrow. Bantry Bay is better than the Shannon or Valentia.
12. I would. Cork is a fine safe harbour, always easy of access.
13. For Galway, decidedly; having nothing to fear, and being well acquainted.
14. Galway, as the best and safest port on the west or north-west coast.

Capt. Richard Pearce.

Captain Richard Pearce.

1. Seventeen to eighteen years.
2. Sixteen winters.

3. Cork . .	Six times. Cork is easy of access in clear weather, and is a very fine harbour, but exposed at the anchorage in southerly gales.
Long Island .	Never.
Crookhaven. . .	Ten times. Crookhaven is a very nice harbour for small vessels.
Berehaven . .	Seven times. Berehaven, though large and spacious, and holding-ground good, is much exposed with the wind at east. I have been riding heavily with both anchors down; it is also subject to heavy squalls from the proximity and shape of the mountains. The western entrance is difficult and dangerous. The eastern entrance is good, but too far up the bay.
Valentia . .	About seventy times. Valentia has a great advantage in the Skellig Rock, distant 8 miles from the west entrance, on which there are two lighthouses, and which, by day or night, form leading-marks for the harbour; also the Blaskets and Foza Rock, none of them can be mistaken for any other objects. Till my first voyage to Valentia, in the winter of 1833, I had never heard the name before, and found no difficulty whatever in making the harbour. During my long experience of this harbour, I never found any difficulty in entering, even before a lighthouse was erected at Cromwell's Point. I have worked in by that entrance twice at midnight, blowing strong from the south. The anchorage is excellent and spacious, and the depth of water sufficient for ships of any description; and though the entrance is narrow, I have, as shown above, had no reason to complain of it.
Tarbert . .	Three times. There is no harbour, and it would not be a desirable place to create one; the current called the "Race of Tarbert" would always be a serious objection.
Galway . .	Never.
Dunmanus Bay .	Never.

5. Frequently in and out of Valentia, and once out of Crookhaven, at night.
6. No doubt all coasts are more or less dangerous in the winter season; but having had a long experience of each (I have been master of a vessel, coasting and foreign, for nearly thirty years), I consider the coast from the Shannon to Cork far less dangerous than the east coast of England.
7. Having a more perfect knowledge of Valentia, I should certainly, under the circumstances in the query, prefer running for that port.
8. From my experience of seventeen or eighteen years, during which period I have been frequently trading with that port, and entered and left it in all weathers, without ever having met with an accident.
9. The Skellig.
10. Same.
11. I do not know any coast for which I should run, in the circumstances described in the query, quite fearlessly. It would be prudent to keep at sea till you had obtained some observation, and to proceed with the greatest caution.
12. The same answer applies.
13 and 14. The particular capabilities of a steam-vessel are out of my province.

Chamber of Commerce, Limerick.

My Lord, *Chamber of Commerce, Limerick, January 18, 1851.*

The Limerick Committee having received a communication respecting the Western Packet Station from a practical seaman of long experience, and having the greatest reliance on his intelligence, as well as his accustomed, well considered, and clear-sighted views, they feel it their duty not to withhold from the Commissioners, and the public, what appears to be important information on the subject of inquiry.

I am accordingly requested, as their chairman, to forward the enclosed copy of Mr. Randall's communication, who, it will be observed, commenced a seafaring life at his native place in Hampshire, and after many years in the merchant service, trading to foreign countries, became connected with the trade between England and the west coast of Ireland, with which he has

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Chamber of Commerce, Limerick.

been engaged for a period of 30 years, during which time he has become thoroughly acquainted with the different ports along the south and west coast.

The Committee beg also to draw attention to the fact, that so late as last month Mr. Randall made a trip, in one of the river steamers, from Limerick out into the Atlantic to Dingle Bay, from whence they towed a large dismasted merchantman into the Shannon, and up to Limerick—thus practically testing, even with a small steamer, the safety of the seaward approach to the Shannon in the depth of winter, under all the unfavourable circumstances of a coasting trip, and towing on her return a large disabled vessel with full cargo, in a long winter's night, —this small steamer, with the vessel in tow, having fearlessly left Dingle in the afternoon, and made the trip round to Foynes during the night.

The Committee have also collected information from several masters of vessels constantly trading between the western ports of Ireland and America; and although of a most favourable character in regard to the superior nautical advantages of the Shannon, they forbear forwarding them, lest of trespassing too much on the Commissioners, but they are ready to transmit them at any time the Commissioners may require.

The Committee feel that the more the Shannon is examined, the more will it be evident that it affords a harbour unsurpassed in Western Europe, presenting all the characteristics of a safe, commodious, well-sheltered haven—the shores on either side affording perfect shelter, with numerous roadsteads along its course, and it has been well characterized as all harbour for the 60 miles of its estuary; and in regard to its seaward approach, the Admiralty report of the late Captain Wolfe, who spent several years in surveying this estuary and the adjacent coast, fully bears out the opinions of the Committee and the seamen frequenting the port.

The safety and accessibility of the entrance of the Shannon cannot be better or more correctly described than in the words of Captain Wolfe, who states, that, "The Shannon possesses the great advantage of being easy of access—its entrance being broad, free from dangers, and, lying latitudinally, may be boldly run for. In clear weather the high land of Brandon serves to mark it distinctly, and may be seen 14 or 15 leagues off. Having made the Loop Head lighthouse, which, from its great elevation, may be seen at least 20 miles, vessels caught in a westerly gale may fearlessly run for shelter to Carrigaholt road, or, bound up the river, either to Scattery or Tarbert roads."

This, with Mr. Randall's communication, appears to the Committee to be very striking testimony upon a point of great importance, and they trust will be sufficient apology for troubling the Commissioners with this communication.

The Committee have already brought under the notice of the Commissioners the superior facilities possessed by Limerick for internal intercourse, by the railways radiating in different directions, and the inland navigation intersecting Ireland from north to south, together with the great natural resources of the Shannon, lately rendered navigable throughout its whole length by a large public grant; and they would now only add, that, in regard to superior and well-appointed hotel accommodation, as well as extent of warehousing, Limerick yields to no city or town in Ireland. The large export trade in corn from Limerick has led to the erection of warehouses to a greater extent than in any port in Ireland; and in the event of the Shannon being chosen as a packet station, the Committee look forward to this port becoming an extensive warehousing depôt for the interchange of commodities between the old and new worlds, for which most extensive accommodation is already available.

This Committee have studiously refrained from importuning the Commissioners during their most important and laborious inquiry, contenting themselves with affording faithful replies to the queries transmitted to them from time to time, by the Commissioners, under the fullest assurance that this subject will meet with all the impartial consideration demanded by its great national importance; and that that port only which possesses the greatest amount of advantages will be selected for this object.

I have, &c.,

THADDEUS M'DONNELL,
Mayor of Limerick, Chairman.

The Lord Hobart, Secretary Transatlantic Packet Station Commission.

Mr. W. Randall.

Mr. William Randall.

1. Trading thereto, almost without intermission, for 13 years in command.
2. Six winters on the south-south-west, and west; seven winters trading to Limerick exclusively.

3.		
	Cork	Fifteen times.
	Long Island	Twice.
	Crookhaven	Twice.
	Berehaven	Three times.
	Valentia	Four times.
	Galway	Three times.
	Dunmanus	Twice.
	Tarbert and Limerick	Forty-nine times.

4, Cork is a blind harbour to run for in thick or hazy weather, and I have sometimes been compelled to lay-to for 12, 18, or 24 hours together, trying to feel my way in by the lead. The prevailing winds upon this coast being from south to west-south-west, almost always bring thick weather; and as the whole coast from Cape Clear to the Tuskar with these winds is a lee-shore, the danger of missing the harbour and being unable to get off again is very

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Replies to Queries. (No. 7.)

Mr. W. Randall.

great indeed. The soundings may, in some measure, direct and inform you that you are approaching the shore, but these will not mark out whether you may be to the eastward or westward of the harbour. With these winds and this weather, ships coming in with the land from westward, bound for Cork, could not attempt to make either Cape Clear or the Old Head of Kinsale; and having run down their longitude, must of necessity heave-to, or overrun the port; every practical seaman is aware that in approaching soundings and shallow water, this dreaded thick weather is the more certain, but there is still another and a most formidable danger to vessels making for Cork harbour, namely, all vessels coming from any part of the continent of America, China, East or West Indies, South Pacific, Spanish Main and Brazil, the coast of Africa, Western Islands, Canaries, Madeira, the Mediterranean, South of Spain, and Portugal, and bound for Cork, Waterford, Dublin, Belfast, Greenock and Glasgow, Whitehaven or Liverpool, and all intermediate ports in St. George's Channel, will endeavour, if possible, to make Cape Clear, or the Old Head of Kinsale; and *vice versâ*, all outward-bound ships will try to take their departure from one of these headlands, the consequence is, that at all times a large fleet of vessels is steering towards the same point, and collision, so much to be dreaded, scarcely to be avoided, particularly in a swift and large steam-ship, requiring, therefore, greater caution and slackened speed.

The harbour itself is unexceptionable; but the difficulties above mentioned must always, in my opinion, form a decided objection to its becoming a packet station to America. The same objections which I have stated as against Cork, apply also to Long Island and Crookhaven, and the harbours are not so good.

Berehaven is more free from thick weather, and the land to the westward more easily made, neither is there so much interruption by, and danger of collision; but it would require a large outlay to make it a fit harbour for a packet station.

I have gone in at both entrances to Valentia. The west entrance is seldom used, and both are extremely narrow; for a steam-vessel, however, it is safe in the entrance or egress.

It is an excellent and well-sheltered harbour.

Dunmanus will never be used, except in extreme cases, to save life or property, being a deep bay with insecure anchorage, and generally unsuitable for a packet station.

Tarbert or the Shannon. Between Kerry Head to the south and Loop Head to the north (which forms the entrance to the river Shannon), the distance is nearly eight miles, and at a safe offing, bears from the Blaskets east-half-south by compass 40 miles distant. During the period of years and number of times which I have passed in and out of the Shannon, it will readily be supposed that I have encountered every variety of danger or difficulty, whether arising from storms, heavy seas, thick weather by rain, mist, fog, or snow, prevailing winds or cross currents. And comparing this river with any other which I have seen or read of, whether considered in its qualifications and capabilities, as capable of ingress and egress, a harbour of safety and refuge, with excellent anchorages along both shores; navigable at low-water for line-of-battle ships; and free from any danger or obstruction for 45 miles to within 15 miles of the city of Limerick, and with a tidal navigation, for ships drawing 23 feet of water, to the quays and docks of the city, and for all purposes whatever—naval, military, or mercantile; as a river, port, and harbour, I look upon it as the safest and best that can be found.

For the purposes and objects of a Transatlantic Packet Station it is impossible to conceive any position more naturally advantageous than the Shannon, for these reasons:—

First. The Blasket Islands are the nearest Irish land to the American continent.

Second. The object should be to reach the nearest land, and the nearest safe port, having railway communication with Dublin.

Third. The course of the voyage from America is the same, or nearly so, as the course from the Blaskets to the Shannon, and up the river.

Fourth. The Blasket Islands being lofty, long, and narrow, and terminating at the sharp point to the west, steep-to on all sides, does not hold fog or mists so much as any line of coast land, and may be safely approached in all weathers and with all winds. The Skellig Rocks which bear south-south-west of the Blaskets, and only 15 miles distant, are of similar formation, and upon these latter are two lights. Between the Blaskets and Skelligs is the Foze, a tidal rock over which the sea always breaks, and which is likewise bold all round.

These are all unmistakeable indications of position, even in thick weather; and if the weather be clear, the Brandon Mountains (the highest coast land in the United Kingdom, and only 12 miles east of the Blaskets) may be seen over 50 miles from seaward. When any of these are clearly made out, the chain of land-falls is so continuous, the distance so short, and the entrance to the Shannon so wide, that mistake, under any circumstance, is scarcely possible. In this I speak with the greatest confidence, because I have had frequent opportunities of practical results. Indeed I have several times, under adverse circumstances, been driven as far as the 14th degree of west longitude, and have therefore been placed in a precisely similar situation as if making a voyage from America, and I have never experienced any delay or difficulty in making the land or reaching the Shannon.

Galway Bay, across which the Arran Islands extend, lies at the bottom of a deep and dangerous bay called Mal Bay; Loop Head on the south, and Slyne Head on the north, being distant from each other nearly 100 miles, form the two extreme points of this deep bay, and of which the Arran Islands are nearly in the centre. The whole coast from Loop Head to the entrance of Galway Bay, a distance of over 40 miles, is extremely dangerous, offering no place of safety or refuge for vessels, and scarcely one where, in case of emergency, life may be saved. The coast between Slyne Head and the north entrance presents some places of refuge, but the whole length is so dotted and beset with rocks and islands that it must always be dangerous for large vessels, and persons not thoroughly acquainted with the locality. No seaman in his senses would, I think, run down into this deep bay unless the weather was

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extremely fine and clear, or that he had previouely made the Blaskets or Loop Head; for to suppose that the lead will mark out the ship's position, after having run a distance of 2000 miles without a precise knowledge of her latitude, is utterly fallacious.

The south entrance of Galway Bay or Sound is less than one-half the width of the entrance to the Shannon, with only one sunken rock in the way; this is the channel generally used hy vessels coming from the westward, and tbe distance from this to the roadstead off Mutton Island is something over 20 miles. Vessels drawing 18 feet of water must ride with the bay fully open, and will therefore be exposed to this long drift with westerly winds.

With the wind between west and south-south-west this roadstead will also he very rough; when blowing hard, no communication whatever can be had with the town of Galway, wbich is nearly two miles distant dead to leeward; and the dock for ships of this description is perfectly useless, having only 14 water at its entrance. In fact the natural disadvantages of Galway for a Transatlantic Packet Station are in an inverse ratio about equal to tbe advantages of the Shannon for the same purpose; I have resided the greater part of two years in Galway, and make this etatement without fear of contradiction.

5. I have sailed in and out of Cork barbour during the night witb leading wind several times. With a steamer, and prudent commander, I consider that wben Roche's Tower is made out clearly, no danger whatever exists.

And I have sailed in and out of the Shannou very many times, in all winds and in all weatbers, and under all circumstances, hotb running or beating to windward. Tbere are no obstructions, and the shores at botb sides being bold, the weather must be very thick indeed to cause any interruption.

But I have never sailed in or out of any of the other ports during the night.

6. I consider the navigation of the west coast of Ireland—that is, the coast from Cape Clear to Loop Head—less dangerous or hazardous in either winter or summer than any other part of the coast of the United Kingdom, particularly as compared with the soutb or east coast of Ireland. By reference to my table of winds I find, that for tbe past five years, ending the 31st Decemher, 1850, the result stands thus:—

North to east	467 days.
East-south-east to west-south-west	722 „
West to north-nortb-west	612 „
Variable	25 „
	1826

Thus it will he seen that the prevailing winds are from those points south-of-east and south-of-west; and that, consequently, the wbole coast from Cape Clear to the Tuskar is generally a lee-shore, the course between these points being east-half-south, and the distance ahout 125 miles; and the only two harbours for which vessels of heavy draught of water can run with safety in this long distance are Cork and Waterford. I have before taken occasion to notice, that thick and foggy weather is mucb more prevalent along this part of the coast tban the more western; and I may now add, that coasting vessels are constantly crossing the track up or down channel to or from the Land's End and the Bristol Channel; as also to and from all the French, Spanish, and Portuguese ports; the tides and currents are also here very strong.

Now, from Cape Clear to the Blaskets the course trends round from north-west to north, and the distance is about 60 miles. The most dangerous wind, therefore, is west to north-north-west, yet, witb any wind between these points, there is not, for the whole distance, a dead lee-shore of so much as eight miles in length. The whole coast is indented with deep hays, harbours, and roadsteads, and includes no less than nine harbours and roadsteads of refuge for ships of the largest size. Along the headlands and points the stream of the tides sets strong but true; two leagues off the coast the current is scarcely perceptihle.

Looking back again to tbe table of winds, I find tbat for about 100 days in each year it has hlown from north round by east to south; and as this would be contrary for homeward-bound ships, the shortest distance to the nearest and safeet port ought to be preferred.

Another feature of some importance in considering this question, is one thoroughly understood by seamen—that almost immediately after the wind changes from the south-west to west or west-north-west the thick mists blow off, and the weather becomes clear.

7. By the way in which this query is put I understand that I am to keep the main question steadily in view, namely, What port nearest to tbe continent of America, and possessing all the needful qualifications for such a vessel, would I run for in the winter? And considering that all seamen will endeavour to make the nearest port of land which presents the most distinguishing outline as a landfall, I therefors fix upon the Blaskets or Skelligs, or hoth, and would prefer running for the Shannon.

8. In a direct line of course from New York to this nearest point, and in the 12th degree nf west longitude, my latitude will be ahout equal to 51° 30′ north; and the distances to the several principal ports wbich have been named in Query No. 3 would stand thus—

Valentia harbour	70 miles.
Berehaven	80 „
River Shannon	94 „
Cork harbour	152 „
Galway Bay	153 „

The Skelligs and Blaskets respectively being about 55 miles distant; and having already pointed out the importance of selecting these points as landfalls; and believing that no prudent

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Replies to Queries. (No. 7.)

Mr. W. Randall.

man would attempt to enter either Valentia or Berehaven in the night, the Shannon, being the next nearest port and the safest to run for, would be my selection.

9. Brandon Mountains, if clear weather; the Skelligs or Blaskets, if hazy.

10. Loop Head light, if clear; the Skellig lights, if hazy.

11. I would fearlessly run for the Shannon in the darkest night with moderately clear weather, because there is no danger or impediment. But I would not run for any of the other ports named.

12. Most certainly not, because Cork is upon a lee-shore with the prevailing winds; and not only would I have to encounter all the dangers and difficulties enumerated in my reply to Query No. 4, but I would have to run an additional distance of 60 miles before reaching the entrance of the harbour.

13. A steam-ship, under the circumstances here mentioned, may be considered in the light of a dismasted ship, under jury-masts, and therefore most unfit to encounter coast dangers. If the wind was south-of-west, I would steer for the Skelligs; and having made these lights, I would have the choice of Valentia or the Shannon. If the wind was north-of-west I would steer to keep the Blaskets broad upon the starboard bow, I would then have the Shannon, Valentia, and Berehaven to run for; but I would by no means encounter the longer coast risk of either Cork or Galway.

14. Under such circumstances, and for all the reasons hereinbefore mentioned, I would decidedly steer for the Shannon. Besides, it may be presumed that either the commander, or some of the mates or seamen, would be thoroughly acquainted with the west coast of Ireland, and competent to act as coast pilots, if no cruising pilot should offer.

It would be impossible that in written replies to these queries all the matter necessary to be stated for the information of the Commissioners of Inquiry upon this subject could be conveyed, because the ever-varying incidents of a voyage may possibly render changes absolutely necessary every hour when approaching the coast, and it is only by oral testimony the truth of these representations can be properly tested.

I have for many years studied the important measure of selecting a western port in Ireland for a packet station; and upon the nautical portion of the inquiry I am fully prepared to sustain the opinions I have put forth; and I am further prepared to disprove the opinions and statements which I have seen in print, emanating from other parties calculated to damage the main question now under consideration, without in the slightest degree benefiting the locality which they profess to advocate.

In advocating the claims of the country of my adoption, I consider I best serve the interests of the land of my nativity; and in contributing, to the best of my abilities, to promote the interests of the city of Limerick, I only perform an act of duty.

Mr. M. O'Connell, M.P.

Mr. M. O'Connell, M.P.

1. I have been in the habit of cruising thereon for over 20 years.

2. I resided on the south-west coast at Derrynane Abbey, and I passed most winters there.

3.

Cork	Very frequently; cannot say how often.
Long Island . . .	Never.
Crookhaven . . .	Once.
Berehaven . . .	Same answer as to Cork.
Valentia	Ditto.
Tarbert	Very frequently.
Galway	Never.
Dunmanus Bay . .	I have been there, but never in a vessel.

4. From my own observations and experience, the best are, 1st. Valentia, next Cork, which are the only ports of the list, so far as my knowledge goes, likely to answer. My reasons for preferring the former would occupy too much room.

5. Valentia and Cork frequently. Never in very heavy weather; but I should leave either of them at night just as soon as by day.

6. All coast navigation is dangerous in winter. I consider those of the south-west coast less so than most others, to those who know it, from the number of harbours thereon.

7. Valentia. My reasons are, 1st. Its being so well reached. 2ndly. Its westerly position. 3rdly. The facility afforded by the two entrances, a third may be easily made. 4thly. Its perfect safety, once you pass the headlands. 5thly. The superior facility of egress, when one wanted to leave, from the double or treble exit.

9. The Skelligs.

13. The Skellig lights, and then the harbour lights.

11. No man in charge of a vessel can do things fearlessly. I should run for Valentia from choice, and with less feeling of responsibility.

12. Answered above. I prefer Valentia; Cork is difficult to hit at night.

13. I should say that the most prudent course will be to run for Valentia, it being most easily made, and having two chances in your favour to get in.

14. Answered above—Valentia.

Commander W. H. Burke, R.N.

Commander W. H. Burke, R.N.

1. Constantly employed upwards of 43 years.

2. I have no log-books or journals to ascertain.

3. I cannot state how often. I served as first officer, and frequently on board revenue cruisers drawing 12 and 14 feet water, from 1808 to 1816, and occasionally from 1818 to 1823,

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Commander W. H. Burke, R.N.

and also as commander from 1823 to 1849. I very often put into all the harbours named, except Crookhaven, Dunmanus Bay, and Valentia.

4. Cork is a spacious barbour, is safe of approach by day and night, and affords perfect safety for large ships. Running for it, the Harhour Rock and Turhot Bank shoals are to be avoided; on each a buoy is placed, and a safe passage on either side of them.

Long Island has two entrances, is safe of approach by the east entrance, and affords safe anchorage for large ships. A small hank lies about half a mile off the inside of this island. Between it and the main is sufficient depth of water and space for ships to pass through. The west entrance is narrow and requires a leading wind to pass tbrough. Were a light placed at the east entrance, sbips could run for it at night.

Crookhaven is not, in my opinion, adapted for a packet station.

Berehaven has two entrances, is very spacious, safe of approach by the east entrance by day or nigbt, where a light is exhibited. The west entrance is narrow, and there are several shoals in it. In this port a large fleet of line-of-battle ships could ride in all weathers in perfect safety.

Valentia is a snug harhour, but the entrance is narrow and unsafe to run for during N.W. gales.

Tarhert is safe of approach: would require to be improved to afford accommodation for a packet station. At Foynes Island, about seven miles further up the Shannon, a safe harbour could, in my opinion, be made for vessels drawing 19½ feet water.

Galway is sheltered from the Atlantic swell by the Arran Islands; bold to run for. At present it has not accommodation for vessels drawing 19½ feet water. By running out a pier from the south side of Mutton Island, and filling up the sound between it and the main, which dries at low water, a safe harbour could be made for a packet station. Running for this harbour, avoid two shoals up the bay near the harbour. On the Black Rock, close to the north shore, there is a beacon. The second spring sboal, about E.S.E. from the former, distant two miles, which has from 16 to 18 feet water on it the lowest spring tides. Between these sboals is a safe passage for ships to work through.

Dunmanus Bay.—The entrance is very bold, is clear of sboals, has depth of water for large ships up to near Mannin Island. A safe barhour could be made in this bay for a packet station.

5. I cannot state how often; hut having been selected on several occasions to cruise on the S.W. and W. coast in cruizers under my command, on secret information for the protection of the revenue, I frequently put to sea at night from the ports before named, in disguise, to prevent my movements being observed, and often ran for them at nigbt for shelter, except Crookhaven, Valentia, and Dunmanus Bay.

6. I do consider it rather hazardous on the west coast in the winter season, in gales from W.S.W. to N N.W.; and I beg most strongly to recommend that a ligbt be placed on the outer Blasket Island, to facilitate and to render more safe the making of any ports in the Shannon, Galway, as well as the northern ports in St. George's Cbannel.

7. I never sailed into any of these ports from America, or served in a steam-vessel; and in entering in a sailing vessel I should be guided by the size of the vessel, my position, and the state of the weather; but generally, and were there placed a light on the Bull Rock off Dursey Island, I would prefer Berehaven.

8. Because it is safe, and Bantry Bay being very spacious, is easy of approach by day or night, is clear of shoals, and the tide scarcely sensible in it.

9. Crow Head and Dursey Island.

10. The barbour light at the eastern entrance of Berehaven; but, as I have hefore stated (at No. 7), the light on the Bull Rock, were there one.

11. I would run for Galway, the Shannon, Bantry Bay, or Long Island, were a light placed at the east entrance.

12. I would run for Cork, baving made the light on Cape Clear, or the light on the Old Head of Kinsale.

13. Were the vessel manageable under canvas, I would run for any of the ports above named.

14. For the nearest of the above ports under my lee.

Lieut. P. O'Malley, Commander, R.N.

Lieutenant Patrick O'Malley, Commander, R.N.

1. From 1820 to 1832, from 1839 to 1840, and from 1847 to 1851.

2. On the Westport Station, being from Broadbaven to Slyne Head, and frequently into Galway from 1820 to 1832; permanently on the Galway Station from July, 1847, to September, 1848; on the Broadbaven Station, from the Stags of Broadhaven to Arcbil Head, for the suppression of piracy and plunder, from October, 1848, to March, 1850; and on the Kinsale Station from April, 1850, to April, 1851.

3.

Cork	Upwards of two hundred times.
Long Island	About twenty times.
Crookbaven	About thirty times.
Berehaven	About thirty times.
Valentia	About ten times.
Tarhert	Twice.
Galway	Upwards of five hundred times.
Dunmanus Bay—Never.	Not considered as a safe anchorage hy the service.

4. In clear weather, and with a fair wind, Cork Harbour is of easy access; but in thick

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REPLIES TO QUERIES. (No. 7.)

Lieut. P. O'Malley, Commander, R.N.

foggy weather it would be running a very great risk to run for it, from its narrowness at the entrance, with two dangerous rocks immediately inside the lighthouse; the tide running so strong that you are not sure of your exact position, and which has proved fatal to some vessels this winter. No vessel can work in against an ebb tide; even with a flood tide you run a risk, having to work between the banks in a narrow channel, and sometimes through a great many vessels. When inside, the ground is good, with sufficient water for any vessel; with a south-west gale the riding is heavy, owing in some measure to the strength of the tide. In 1829, I was there in a first-class cruiser in a gale from the S.W. A smack belonging to Plymouth drove alongside of us, and before we could get clear of her she carried away our top rail and nine stancheons. On a later occasion, a Torbay trawler drove alongside of another cruiser, and carried away eleven stancheons on one side; then took a sheer, and carried away twelve stancheons on the opposite side, although veering cable in the cutter at the time. With strong southerly wind no merchant-vessel could beat out, in consequence of the heavy cross sea caused by the tide.

Long Island, or Long Island Channel, is a narrow passage; there are two entrances to it; the western, a narrow one, between two high rocks; the other, round the eastern point of the island, from which a vessel must work to the westward, to about the middle of the island, to get into the proper anchorage; besides, the island is very low, and can only be distinguished from the main land when quite close to it, and not fit for large vessels, consequently is not commendable to run for in a gale of wind or in thick weather.

Crookhaven is a very narrow harbour with only room for a fast cutter to fill and stay in, but when well inside, the anchorage is good for vessels of from 8 to 14 feet draught of water.

Berehaven is a spacious harbour, with sufficient water for any ship, having from 6 to 12 fathoms all over; the western entrance is not safe for a large vessel or even for small vessels without a pilot, it is so full of rocks; the eastern entrance is safe, but like Long Island, with westerly or north-west winds a vessel must beat to the westward some distance to get to the proper anchorage. I have seen a heavy sea there with the wind from south-east to east by south.

Valentia is a good harbour when inside; but the entrance is so very narrow (about a cable's length) that I question, even if you could make it out, whether it would be safe to run for it in very bad weather; for should you miss it, the vessel and crew would be placed in great danger.

Tarbert is exposed to gales from north-west to north by west, and from the strength of the tide the riding is sometimes dangerous and disagreeable, for you are obliged to keep a man at the helm to steer the vessel the same as if at sea. Large ships would be much in the way of the navigation of this place. Beal Bar is very dangerous, and there are several shoals to the southward of Scattery Island, and to the northward of Carrig Island, which leaves the channel narrow in this part of the river. In April, 1850, on a fine day, wind at west, the "Stag" and "Rose" revenue cruisers were working down the Shannon, they got as far as the Kiltiffin Bank, or, as it is generally called, the Enchanted Ground, the "Rose" tacked short of it, the other stood on, when immediately after, it broke on board of her, carrying away bowsprit, topmast, and cross-trees; the vessel almost foundered: the least water on this bank is four fathoms.

Galway is a noble bay, and well sheltered by the Islands of Arran, which form a breakwater at the entrance of it, with sufficient water for the largest ships; is of easy access, having four entrances to it without a single rock on either (namely) the North Sound, South Sound, Gregory Sound, and Foul Sound, and although called foul, it is not so. The two latter are nearly a mile wide, through which a line-of-battle ship could sail at any time with the greatest safety; and should the sea be maintained high outside, the moment you get inside the islands you are comparatively in smooth water, so that a vessel may anchor in any part of the Bay, the ground being strong blue clay. I have frequently been to an anchor inside of the North Island in "Killaney" Bay, in gales from south-west to north-west, and perfectly safe. Those islands are high and bold-to, having an excellent light, and being very high, can be seen from the westward more than 30 miles off; there are also other land-marks which indicate the Bay (namely), the Twelve Pins of "Connamara," which can be seen upwards of 40 miles from sea. Black Head is a bold bluff head-land, and forms a good land-mark with good anchorage to the north-east of it. There is a good lighthouse on Mutton Island close to the harbour of Galway, where there is superior holding-ground with sufficient water and shelter for any vessel. I have found this part of the coast almost free of fog, which is a great consideration in making the land.

Dunmanus Bay, I have not been into, nor, I believe, has any vessel belonging to the service: it was never considered an anchorage by them.

5. I have entered Cork and Crookhaven at night for shelter; but have not sailed at night from either of them. Long Island, Berehaven, Valentia, or Tarbert, I have not entered or sailed from at night. Galway I have entered several times at night, sometimes for shelter, at other times according to order. I have also sailed at night from Galway upon many occasions, sometimes with treasure from the Board of Works, to pay men who were working at a pier then building on the North Island of Arran; sometimes with provisions during the distress of 1847; sometimes with stores for the Coast Guard service. I did so in order to get rid of my charge before dark.

6. I consider that the navigation of any coast which becomes a lee shore in a gale of wind must be to some extent dangerous; but I do not think that the west coast if well known is so dangerous in westerly gales as the south coast is in southerly gales, or the east coast in south-east, or east-south-east gales.

7. I would decidedly prefer running for Galway in any season.

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Lieut. P. O'Malley, Commander, R.N.

8. The reasons why I would prefer running for Galway are, 1st. That it is the nearest to America. 2nd. That it a good land-fall with excellent lights, and a choice of four entrances into a spacious clear bay. 3rd. That it is more free of fog than any part of the coast, either of England, Ireland, or Scotland upon which I have been stationed, and a safe anchorage for ships of any size. I have seen Her Majesey's ship "Andromache" to an anchor there during two winters, drawing 20 feet water, and sometimes more, according to the quantity of bread-stuffs she might have had on board; and I believe never missed a day in sending a four-oared boat on shore for letters.

9. The North Island of Arran in the day as being the best land-fall for the Bay.

10. Arran Light at night, as being one of the guides to entrance of the Bay, and in a line with it.

11. If bound to Galway, I would run for that port, when I would not venture to run for any of the others, from the great facility of its entrances which would encourage me to make bold, and which I could scarcely miss; at the same time, if blowing a gale of wind with very thick weather, and my distance was nearly up, I would approach it cautiously, keeping Massay's patent lead constantly going, with look-outs upon each bow, quarter and gangways; but if I once made out the light on Arran Island, I would fearlessly steer up the Bay without the slightest hesitation; and when once inside of the island, I would be in smooth water: under similar circumstances to the above, I would hesitate to run for the Shannon, Valentia, Bantry Bay, or Long Island until day-light.

12. I would not run for Cork unless I had seen Cape Clear, Galley Head, or the Old Head of Kinsale, and then only off the harbour, the entrance to Cork being very dangerous, particularly at night and without a pilot. Dant's Rock is right in the track of vessels coming from the westward, then again inside the lighthouse, there are two rocks, the Harbour Rock, and the Turbot Rock, both in the very middle of the entrance to the harbour. I have been obliged to lay too off Cork Harbour in thick weather, on three occasions, with the wind blowing very hard at south-west, so that I would not like to run for this harbour on a thick night.

13. On a late occasion the "Atlantic" steam-vessel of New York succeeded in getting into Cork Harbour with the loss of her main shaft. I was close to her off the Old Head of Kinsale, when the master sent the pilot cutter for a steam-tug to tow him in; soon after the wind having veered a little more to the southward, he steered for the entrance of the harbour where he met the steam-tug, but was induced by interested parties not to employ her until he got inside the harbour, in order that they may have it to report, that such a vessel sailed into Cork Harbour with her machinery defective; immediately after getting inside, the steam-tug took him in tow, and brought him up to one of the Admiralty buoys off Haulbowline, where he remained until he was towed away by two Liverpool steam-tugs. Had the wind come from the south to south-east soon after his vessel having rounded Cape Clear, she would have been placed in very great danger. Had such an accident taken place off Galway, she could boldly run, or sail up the Bay with the greatest safety to vessel, cargo, and crew; or had the wind been too bare to lay up, she could have anchored in any part of the Bay with every safety. In all the winds which would have endangered her loss on other parts of the coast she could sail into Galway with, while that wind which would prevent her from doing so would keep her clear of the shore; in fact the Bay is so wide, that if the vessel could be insured to stay, there is nothing to prevent her working into it, so that there is a better prospect of saving the ship in this port than in any of the others.

14. I would decidedly steer for Galway, as being the nearest, and under any circumstances the most safe, besides that, the only wind which makes it a lee shore is a fair wind right up to the docks, and beg to refer to No. 8.

M. Smith, Esq., Commander of Revenue Cutter "Chance."

M. Smith, Esq., Commander of R.C. "Chance."

1. Twenty-eight years.

2. About fifteen.

3. I have frequently been into all the harbours named; but cannot state how often.

4. I consider them all excellent harbours, with the exception of Dunmanus; but have found very great difficulty in getting out of Long Island and Valentia harbours with strong prevailing westerly winds.

5. Entered and sailed from all the ports named, both day and night, when stationed on the south and west coasts; but cannot state how often.

6. I do not consider the navigation of the west coast either dangerous or hazardous in the winter season.

7. The Shannon.

8. It being the nearest port, with the exception of Valentia, for which I should feel hesitation in running in thick, hazy weather.

9. Brandon Hill, or the Blasket Islands.

10. Either the Skellig or Loop Head Lights.

11. I would without hesitation run for Galway, were there a light on the Skird rocks, or on Brannach Island; but would prefer the Shannon were Loop Head Light discernible; for either of the other ports I would not run unless compelled by stress of weather.

12. Yes, at all times, if bound for that port.

13. Were the ship manageable under canvas, and the wind from N.W. to S.W., I would run for either Cork, the Shannon, or Galway.

14. Under such circumstances I would run for the Shannon.

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Replies to Queries. (No. 7.)

Lieut. W. H. Broad, R N., Commander of R. C. "Harpy."

Lieutenant W. H. Broad, R.N., Commander of Revenue Cutter "Harpy."

1. In the command of a cruiser from the month of November, 1846, until June, 1849.

2. One year upon the west coast, one year upon the north-west coast, and one year upon the north coast.

3.

Cork	Three times.
Long Island . . .	Never.
Crookhaven . . .	Never.
Berehaven . . .	Once.
Valentia . . .	Never.
Tarbert . . .	Stationed twelve months.
Galway . . .	Three or four times.
Dunmanus Bay . .	Never.

4. I do not consider myself sufficiently acquainted as to form an opinion of the capabilities of these ports. The river Shannon I consider to be of very easy access, being free from danger at its entrance, and deep water close to the shore, which can enable masters of vessels navigating this part of the coast to run boldly for its entrance, more especially steam-vessels, as in thick weather they can stand in until they make Loop Head, and once made, enables them to continue their course up the Shannon to a safe anchorage in any weather, where there is plenty of water for the largest ships to ride; owing to the unevenness of the ground between Kilcraden Point and Loop Head, with an ebb tide and strong westerly and north-west winds, there are overfalls which break very suddenly and with great force, and it is necessary for masters of small vessels sailing in or out of this port to be most cautious in avoiding them, as they are attended with danger should they break on board.

The anchorage off Tarbert is very good for holding, and the water deep enough for large ships. I should always recommend moorings be laid down for vessels that may be continued for any length of time upon the station, as the tides are very strong after heavy rains in the winter season; and I consider the River Shannon to be one of the first ports in Ireland for transatlantic steam communication, the upper part of the river affording facility for the building of docks, &c., to any extent.

Galway harbour or roads I have had but little experience in, the weather being fine upon the several times I have anchored there, and those for very short periods. I am of opinion that steam-vessels once inside the Arran Islands could approach Galway Roads at all times without danger. The roadstead of Galway is open to south-west winds, which causes rather rough riding.

5. Have frequently entered, and sailed from the Shannon by night, both in fine weather and thick dirty weather, snow, squalls, and fogs, but never in a north-west gale. Galway I have entered and sailed from but once, the weather being fine in both instances.

6. I consider the west coast of Ireland dangerous navigation in the winter season, in consequence of the sudden changes of wind to the west and north-west, which causes the sea to run very high, and all vessels navigating this part of the coast are consequently brought upon a lee-shore by the change; and if they have not a port close under their lee to immediately take advantage of, they run a great risk of getting embayed, as from the violence of the squalls and heaviness of the sea, they can seldom carry sufficient sail to enable them to work off the shore; these remarks allude to sailing-vessels only. I do not consider there is any risk in a vessel propelled by steam upon the west coast of Ireland, of a certain tonnage, as I presume no vessel would be employed that had not sufficient steam power to make head-way, however bad it might blow, should her position be found contrary to what it was desired.

7. I should prefer the river Shannon.

8. In consequence of the approach to the River Shannon being bold, I could stand towards the shore (unless in a dense fog) sufficiently close to make out the Loop Head Light. In the daytime, in moderately close weather, the Brandon Mountains are an excellent landmark, being discernible from a great distance. Also the Blasket Islands, they being pretty bold upon the sea side, and the whole of the shore, from the Blaskets to Kerry Head, may be approached without danger, as the depth of water will guide you clear of the rocks that lay inside of the Hog Islands; and having made out the entrance of the Shannon, you can proceed for Tarbert without delay.

9. Loop Head, or the Brandon Mountains.

10. Loop Head Lights.

11. The Shannon, all things considered, I am of opinion is the safest port, having the boldest shore to contend with upon making the land, and no headlands to round before making the Lights, besides having a large clear entrance which is most desirable for vessels of large draught of water, and of great length; and to make this port still more easy of access, I would respectfully suggest that a light-house should be built upon the outer Blasket Island, the light to be upon the flashing principle, which would be different from any other light upon the west coast, and would be of great utility to the coasting-vessels as well as the steam-packets. I would propose that the unoccupied lighthouse at Loop Head be made use of for the above purpose, as it could be transported, and rebuilt most expeditiously.

12. Under the circumstances I have before stated, I would prefer running for the Shannon in preference to Cork.

13. Under the circumstances alluded to I should not consider it prudent to run in the night time in bad weather, unless the land had been sighted previously.

14. Under such circumstances I should consider the Shannon the best port to steer for, but it would greatly depend upon the state of the weather and the direction of the wind; as for instance, should it be blowing a gale from the north-west, attended with dirty thick weather, so

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that the land or lights could not he seen until the vessel was well in with the shore, I should under these circumstances steer for Cape Clear or one of the south-western ports, as the water would be smooth under the land; hut should the wind he to the south-west, the Shannon would be the port.

Lieut. W.H. Broad, R.N., Com. of R.C. "Harpy."

James Sims, Esq., Commander of Revenue Cutter "Racer."

J. Sims, Esq., Com. of R.C. "Racer."

1. Three years.
2. None.
3. In Cork, once in 1836. Never in any of the other ports named.
4. Never heen on any part of that coast.
5. Never.
6. Have no knowledge of the west coast.
7. Never on that part of the coast.
8. Unacquainted.
9. Ditto.
10. Ditto.
11. Ditto.
12. No knowledge; only heen there once, in 1836.
13. No knowledge.
14. Do not know.

Lieutenant Charles Goldsmith, R.N., Commanding Revenue Cutter "Wellington."

Lieut. C. Goldsmith, R.N., Com. of R.C. "Wellington."

1. Five years.
2. One winter.
3. Five times into Cork; six months cruising in and around Galway Bay; never in any of the other ports named.
4. Cork is a very safe harbour; easy of access at all times of the year. The anchor off Galway is safe, hut the Bay dangerous to approach in winter time.
5. I have entered and sailed out of Galway Bay on several occasions during summer nights, going from one place to another, hut never out of any of the other ports.
6. I do consider the west coast very dangerous in the winter, in consequence of the heavy sea that rolls in from the Atlantic, and, in general, thick hazy weather.
7. I would give Cork the preference.
8. Because you can run for it at all times of tide, day and night, without fear, if you can see the land or light.
9. Cape Clear.
10. Cape Clear Light.
11. I would not.
12. I would.
13. Certainly not.
14. Cork.

Francis Browne, Esq., Commanding Revenue Cutter "Desmond."

F. Browne, Esq., Commanding R.C. "Desmond."

1. Eighteen years.
2. Two winters stationed on the S.W. coast, and frequently cruising along that coast for eight winters, and on the N.W. coast eight years.
3. Cork—About twenty times.
   Long Island—Eight or nine.
   Crookhaven—Six or seven.
   Berehaven—Three months on this station, and six or seven times previously and after.
   Valentia, Tarbert, Galway, Dunmanus Bay, } Never in these ports; passed along the coast frequently.
4. I cousider Cork and Berehaven very safe, and easy of access, and fit to contain a fleet of the largest ships in Her Majesty's service. Long Island and Crookhaven are also good and safe harbours, hut not so well adapted for large shipping as the ports above named, neither are they so easy of access, especially at night, or in thick or hazy weather; and although I have never heen in Tarbert or Galway, I am aware they are safe and capacious ports, and easy of access: Valentia and Dunmanus Bay are not so much to be recommended.
5. I have entered and sailed from Cork and Berehaven, both hy day and hy night, in winter, in a revenue hrig of 220 tons, and a cutter of 150 tons, in very had weather, at least ten times; I have also run from Cape Cornwall in the said cutter in a southerly gale, under a trysail, for Cork, made the harhour light, and got to safe anchorage during a dark winter's night. I have also heat into Long Island and Crookhaven in the said hrig, after dark in the winter season, three or four times, while cruising on that part of the coast; I have also ventered and sailed from Berehaven in the night, more frequently than any of the other ports, having had command of a small cruiser there for three months in winter, and frequently there in large cruisers.
6. I do not consider the navigation of the west coast of Ireland either dangerous or hazardous at any season to those who have a knowledge of the coast; to strangers it may appear to he hoth.
7. I would prefer Cork.

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REPLIES TO QUERIES. (No. 7.)

F. Browne, Esq., Commanding R. C. "Desmond."

8. I could depend more upon my sonndings, and thereby make a more correct land-fall in thick or hazy weather; hy running for any of the western ports I would he more liahle to get to the eastward of my intended port, and thereby have to alter my course considerably, which would he a loss of time.

9. Cape Clear.

10. Old Head of Kinsale.

11. Having made any of the lights, or headlands, so as to ascertain the position of the ship correctly, I would run for Galway, the Shannon, or Bantry Bay; under these circumstances, as to Valentia or Long Island, I consider there would be a very great risk in doing so.

12. I would prefer Cork to any of the other ports.

13. I consider it quite prudent if the ship was under good command.

14. I would steer for Bantry Bay, therehy heing more likely to have a safe port under my lee when making the land.

Commander Hutchinson, R.N.

Commander Hutchinson, R.N.

1. Seven years and a half.

2. Six.

3.

Cork . . .	Repeatedly during the ahove time of my command as Superintendent of Fisheries.
Long Island .	Several times, by hoat only.
Crookhaven .	Constantly.
Berehaven .	By hoat on several occasions.
Valentia . .	By hoat on several occasions.
Tarhert . .	Visited in gun-brig on duty.
Galway . .	General and principal station for official duty.
Dunmanus Bay	Many times, by hoat on official duty.

4. Cork. A safe harbour.
Long Island. A blind harbour at night.
Crookhaven. Good when safe in, but blind to take at night.
Berehaven. Safe harbour.
Valentia. Bad at night.
Tarbert. Dangerous at times from a very strong race of tide.
Galway. One of the finest hays and most safe harbours; and I consider it, from long observation and practical experience, and the localities attached, to he most desirable, for the following reason:—Must ever prove beneficial for a public establishment in saving the lives of hundreds, and to the mercantile world, I have no hesitation in assertiog, it would be of the most invaluable and greatest possihle advantage in preserving hoth ships and property, heing the nearest and most safe in approach for the Atlantic, and in avoiding that most dangerous part of the Irish Channel, approach safe hy day or night, at all times of tide and wind, by good navigators.
Dunmanus Bay. Only safe generally for hoats.

5. Repeatedly, in and out in the execution of duty.

6. Dangerous at times in the winter season for sailing vessels, hecause no safe approach at all times, with the exception of Galway Bay.

7. Galway, decidedly.

8. Because the approach safe at all times and tides, and the nearest safe harhour to the Atlantic.

9. Achill Head.

10. If a light has been placed at Achill, as I think there has since I left the coast, decidedly for that, and then for Arran revolving light, at the entrance of Galway Bay.

11. Galway, certainly.

12. No.

13. Safely for Galway Bay, if the wind was fair.

14. Most certainly for the first and safest, which I conscientiously believe Galway to be, from my constant personal ohservations and experience during the ahove seven years and a half.

Lieut. Jones, R.N.

Lieutenant Jones, R.N.

1. Nine years on the packet stations, Holyhead, Kingston, and Liverpool.

2. Two winters.

3.

Cork	Four times.
Long Island	Never.
Crookhaven	Never.
Berehaven	Once.
Valentia	Never.
Tarhert	Never.
Galway	Three times.
Dunmanus Bay	Never.

4. Cork is good in every respect.
Berehaven, as a harbour, is also good, but has no conveniences for a packet station.
Galway is not so well situated as a starting point or packet station as the other two.

5. No.

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Lieut. Jones, R.N.

6. Yes, I consider that it is so, from its being generally a rocky iron-bound coast, and the whole set of the Atlantic, from the prevailing winds, usually causing a sea to roll heavily on the shore.

7. Cork, undoubtedly.

8. Because it is easy of access and departure from with large steamers, at all times and in all weathers, and a course can readily be shaped from thence either to the west or south-west, as required; whereas from Galway, in order to make an offing, you have generally a dead pull from a lee shore against a heavy sea and head-wind.

9. Cape Clear.

10. The same.

11. Certainly not, with a westerly wind.

12. Yes; for if the land or lights were not seen it would be easy to make an offing with the prevailing winds.

13. Much more so for Cork than for either of the other mentioned ports.

14. Cork.

In conclusion, if I may be permitted to offer an opinion respecting Holyhead, from my long experience I would say, that when the outer harbour is finished, a large steamer starting from that port on receipt of the mail would reach America as soon as one starting from Galway with a mail forwarded for embarkation there.

Capt. W. Hamley, R.N.

Captain W. Hamley, R.N.

1. Upwards of three years.

2. Two on the south coast, one west and north-west.

3.

Cork	About twenty-five times.
Long Island	Ten or twelve times.
Berehaven	Twice.
Galway	Twice.

4. Galway Roads possess good holding ground, but is open to winds between W. and S. and S.E. The ports of Cork, Berehaven, and Long Island are excellent.

5. Yes; worked out of Cork Harbour of a dark night, and have also entered it (but with a leading wind) at night, either from stress of weather or such apparently approaching.

6. I do, from the great prevalence of fogs and westerly gales.

7. Cork Harbour.

8. Its being accessible night and day, and at all times of tide; a good line of coast and good lights westward of it.

9. Old Head of Kinsale.

10. Old Head light.

11. Galway Bay might be run for provided the Arran light could be seen at a moderate distance. The Shannon might be run for, but it would be advisable to make the land about Brandon Head, from whence a safe course could be shaped between Kerry and Loop Heads. Valentia is totally unfit to run for, or even for a large ship to enter in bad weather. It would be difficult in the extreme to run for Berehaven or Long Island in a dark night, in fact, it must be attended with much risk and danger.

12. I would, certainly.

13. I should run for Cork Harbour.

14. Cork Harbour.

Malabride, March 31, 1851.

Sir,

I have the honour to transmit the answers to the queries submitted in your letter of the 27th instant.

I regret that my experience does not admit of my speaking with more confidence as to the merits of the harbours in question. I have never been on the Shannon, and it is upwards of 25 years since I was last in Galway, so that it may have undergone improvements since that period; but I can with the greatest confidence recommend the opinion of Mr. John Carter (Commander of the R. C. "Badger"), as an unprejudiced, intelligent seaman, and pilot of the coast of Ireland, who served many years under my command; and for his great ability and experience in all weathers and at all times, I would give it the preference to that of all the inspecting commanders or naval officers that ever served on the coast; the latter having only an acquaintance with the mere locality in which for a few years they may have served, and principally on shore; but the former has had an experience of nigh 30 years, having during that servitude commanded a revenue cruiser employed all round Ireland, and had constantly to run, in all weathers, by night and day, for every bay and harbour in it.

I have, &c.,

J. Irwin, R.N.,

Inspecting Commander, Malabride.

Lord Hobart, &c. &c.

Commander Irwin, R.N.

Commander Irwin, R.N.

1. Since 1st January, 1821.

2. Clewbay (Westport), eleven winters; N.W. coast, three; South coast (Kinsale district), nine; N.E. coast, seven.

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Replies to Queries. (No. 7.)

Commander Irwin, R.N.

3.

Cork	About twenty times.
Long Island Sound	Twice.
Crookhaven	Twice.
Berehaven	Twice.
Valentia	Never.
Tarbert	Never.
Galway	About six times.
Dunmanus Bay	Never.

4. Cork is a spacious excellent harbour, abounding in every facility for supplies and repairs; is easily made by homeward-bound ships, from the well-defined headlands from the Cape to the entrance, which is easy of access and egress in any weather.

Long Island Sound is an admirable spacious anchorage, smooth water and deep, no tides, but difficult to make in dark nights or thick weather.

Crookhaven is too narrow and confined for a large ship.

Berehaven is a capacious harbour with two entrances, perfectly smooth water, good holding-ground, and safe to run for, with headlands bold and well defined; but no lights on the island of Berehaven, which would be necessary if made a packet station.

Galway has an indifferent harbour. The entrance of the bay, before you reach the Arran Isles, is dangerous on both sides, with a tremendous sea rolling in from the Atlantic, obliging a vessel in a gale, and bound there, to make these islands at all risks. I have seen the sea break inside the bay in fifteen fathoms' water.

5. Never, in my recollection, except in summer or fine weather, my services and experience being principally confined to the harbours and coast of Clew Bay, Black Sod, Sligo Bay, and Kinsale.

7. Decidedly, Cork.

8. The south coast is the safest and the least subject to fogs. The headlands stand well out, and so defined and lit that they cannot be mistaken, and harbour unexceptionable.

9. The high land on the S.W. of the county of Cork.

10. Cape light at night.

11. No, unless I knew my exact position, and were sure of making the lights.

12. I should feel less alarm in running for Cork. I would invariably steer so as to make Cape Clear on the port bow, and stand on till I came into soundings. Should the weather prove so thick as to preclude the possibility of making the light, I could then lay the ship's head off-shore with perfect safety.

13. I would try to make Cork, for, if the wind headed in, I should have a choice of harbours under my lee, and Cork affords facilities for repairs, &c., which the other ports I am acquainted with do not.

Captain James Scott, R.N.

Capt. Jas. Scott, R.N.

My Lord, *Grove-street, Leamington, May 22, 1851.*

I have the honour to acknowledge the receipt of your letter, dated the 19th instant, requesting me to reply to the queries contained therein, with which I have much pleasure in immediately complying; although I fear, from the short period I was employed on the west coast of Ireland in H.M.S. "Harlequin," that my opinion can scarcely be deemed of sufficient value to influence your Committee; but they are formed from the impressions made on my mind at the time I was cruising there, and as such I freely express them. It will be right to observe that Ardbear Harbour and Black Sod Bay were my principal places of rendezvous.

1. From November, 1824, to June, 1825.

2. The only winter as above.

3.

Cork	Six or seven times.
Long Island	Once.
Crookhaven	Not visited.
Berehaven	Three or four times.
Valentia	Not visited.
Tarbert	Not visited.
Galway	Never anchored there, but frequently in the Bay.
Dunmanus Bay	Not visited.

4. First. Cork, the best and safest harbour, in my opinion, which can be quitted or entered without hazard at all times.

Second. Long Island is a beautiful safe anchorage, but its approach, except in clear weather, is extremely hazardous.

Third. Berehaven, a magnificent harbour, presenting few dangers, which are easily avoided, viz., the rock nearly in the centre of the western passage, and the reefs, perfectly visible at the eastern entrance.

5. From Cork; I have left the port two or three times by night, in consequence of sudden information that smugglers were on the coast in its immediate vicinity; and once I entered it at night, being the first time I ever visited it, having no fear of doing so, from the excellent chart supplied me by the Admiralty.

Long Island. In the month of January, with a strong breeze and heavy sea from the S.W., close hauled on the larboard tack, a little to windward of Cape Clear, I carried away the gaff of my boom mainsail ("Harlequin" was an 18-gun brig), and finding there was little chance, under such circumstances, of being enabled to weather Mizen Head, with every appearance of a severe gale, I determined (having nearly half an hour's daylight) to run for Long Island, one of my officers being well acquainted with the anchorage. It was dark before we reached

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Replies to Queries. (No. 7.)

Capt. Jas. Scott, R.N.

the western entrance of the port—as dangerous a one as ever I attempted after nightfall—for we appeared at one time surrounded by breakers. No stranger could, I think, have succeeded at night. I would never attempt it again, except under circumstances where no choice was left me.

Berehaven. Once, in 1836, I entered this harbour by night, in H.M.S. "President," of 50 guns, drawing 23 feet water. Having made Black Bull Head clearly out before dark, I had no difficulty in getting to an anchor by the eastern entrance.

6. I know no part of the world more hazardous than the navigation of the western coast of Ireland in the winter season. My opinion so formed arises from the almost constant thick weather and frequent heavy gales of wind which are met with on that coast, always accompanied by a heavy rolling sea and swell from the Atlantic Ocean, having nothing to break its full range and accumulated force from the coast of America. Heavy gales from the westward are almost invariably accompanied by rain and thick weather, so long as the wind remains to the southward of west. Any vessel, under such circumstances, running for one of its ports, and should happen accidentally to be out of her reckoning two or three miles in her latitude, would incur a hazardous risk to a fearful degree; and if unfortunately she should touch the ground, inevitable and immediate destruction would be the result.

7. Cork, undoubtedly.

8. Instead of a lee shore, such as all the western ports present during a westerly gale, Cork, under such circumstances, becomes rather a weather one, and as such may be approached, proper precaution being taken, with the greatest safety in the thickest weather. Once embayed on the western coast in heavy, thick weather, the only chance of salvation is the weather moderating or clearing up. No such danger attends running for Cork.

9. Mizen head.

10. Cape Clear.

11. Certainly not. Nothing, under such circumstances, could tempt me, although I might feel the greatest possible confidence as to my true position. In my opinion it would be sheer madness to attempt it, under all the circumstances which the question involves.

12. I should, for the reasons already assigned.

13. In my humble judgment it would be the height of imprudence.

14. Cork.

I have, &c.,
Jas. Scott,
Captain R.N.

The Lord Hobart,
&c. &c.

Commander John B. Cragg, R.N.

Commander John B. Cragg, R.N.

1. Three years.
2. Three.
3.

Cork	Once or twice a-week for nearly three years.
Long Island . .	Very frequently during the above period.
Crookhaven . .	Ditto.
Berehaven . .	Ditto.
Valentia } Tarbert } . .	I have never been in either.
Galway . . .	Three or four times.
Dunmanus Bay .	Once.

4. I consider Cork and Berehaven to be easy of access either by day or by night.

Long Island. Easy of access by day, but not a place to run for in thick weather by night.

Crookhaven, Very easy of access, but the harbour is too narrow for steam-vessels of a large class.

Berehaven. A good harbour; may be entered either by day or night. I have frequently sailed from it in a man-of-war cutter drawing 13 feet water, and worked through the eastern passage by night.

Valentia and Tarbert. I am not acquainted with either of these ports.

Galway and Dunmanus Bay. I am not sufficiently acquainted with either of these ports to give an opinion.

5. Yes; from Cork, Berehaven, and Crookhaven, during the time I was employed in command of H.M. cutter "Speedy," for the suppression of smuggling.

6. Hazardous on account of the heavy sea; thick and stormy weather in the winter season.

7. Berehaven and Cork.

8. Because I consider these ports to be more easy of access.

9. Dursey Island, if running for Berehaven; Cape Clear, if running for Cork.

10. Skelligs Light, if for Berehaven; Cape Clear (Fastnet Light), if running for Cork.

11. Certainly not in all weathers.

12. Yes, I would for Cork.

13. I would have no hesitation in running for Cork.

14. For Cork.

Captain Sir Robert Hagan, R.N.

Capt. Sir Robert Hagan, R.N.

I and 2. I resided 10½ years at Queenstown, eight of which I was the Inspecting Commander of Coast Guard.

3. In and out of Cork harbour about four days every week during the above eight years, and twice or thrice into Long Island Sound and Crookhaven, but I never visited the others.

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REPLIES TO QUERIES. (No. 7.)

Capt. Sir Robert Hagan, R.N.

4. Cork harbour is, as it is generally known to be, a most excellent one; for the moment the Turbot bank is passed, smooth water and a safe anchorage are obtained. It is also easy of ingress and egress. I consider Long Island Sound a very good port, for temporary purposes, such as for wind-bound vessels, also Crookhaven. Valentia, being a blind harbour, is out of the question. As to the others, they may be very good harbours, but the approach to them offers, in my humble judgment, insuperable objections as a packet station.

5. I have been in and out of Cork harbour hundreds of times in the night, in all weathers, it being a part of my duty to do so; and I would as soon go out, in a steamer, at night as I would by day. I have not been in and out of the others by night.

6. I certainly do consider, in common, I believe, with most seamen, that the west coast of Ireland is a very dangerous one in winter; the prevailing winds are from south-south-west to west, and these bring thick weather and a heavy sea, and it is of course a lee-shore with these winds.

7. Cork, most assuredly. On approaching the coast I would take care to get into and then run down my longitude in the parallel of about 51°, until I was sure of being to the eastward of Cape Clear. I should thereby avoid the currents and tides which are known to prevail on the dangerous coast between the Cape and the Blaskets. I would be then indifferent as to the state of the weather or atmosphere; having passed the meridian of the Cape, I would haul up to the northward, make the Old Head of Kinsale, and run into Cork harbour in any weather.

8. Cape Clear, if clear weather; the Old Head of Kinsale, if thick.

9. Same as above.

10. I would not, under such circumstances, run for any port north or north-west of the Cape, nor do I think any prudent seaman would do so

11. Most certainly, because the coast from the Cape to Cork is not a lee-shore with the prevailing winds; and this being a most important feature in the case, I would beg most earnestly to impress the fact on the minds of the Commissioners. If any accident happened, as I approached the coast I should not have a lee-shore to contend with; on the contrary, I should have ample sea-room; but the coast being bold I should not be afraid (though disabled) of approaching it, and groping my way to Cork harbour, even in the thickest and worst weather.

12. I would say, emphatically, and without fear of being contradicted by any unprejudiced seaman, that so far from being prudent to run for any port north or north-west of the Cape under such circumstances, it would be an act of temerity, unless the weather was particularly clear and fine.

13. For Cork, without fear from thick or bad weather, for the several reasons already set forth. Cork is open to the south-west; and, assuming that the wind would be from that quarter, I would be sure, so long as the ship steered, of being able to enter in safety.

Having thus presumed, without being asked, to reply to the Commissioners' queries, I consider it necessary to observe that I have no interest whatever in their decision. I have the natural wish only that the port best adapted for the purpose should be chosen. I studied the subject some years since, and wrote on it in the papers. I then thought, as I now do, that Cork harbour possesses advantages over all its competitors. I do not know what port on the other side has been fixed on. I cannot calculate, therefore, the actual savings in miles, nor do I care; but, supposing any port on the south or west coast is 200 miles nearer, say a day's run in fine weather, is this to be set up against the damages and difficulties involved in the homeward voyage? I say it ought not; for I affirm that the coast which is known to be approachable at all times, and the port which is known to be accessible in all weather, should be the one chosen, though the distance by water may not be shorter. Vessels charged with Her Majesty's mail cannot, except under the most pressing circumstances, lay-to or slacken their speed. On they must go. The mercantile interest, public feeling, the public press, and national rivalship will be always ready to exclaim against a commander who was twenty-four hours after his time. Hence he cannot exercise that prudence and precaution, which he otherwise would feel bound to exercise. The Commissioners have therefore a serious responsibility thrown on them; it is not alone property, it is human life that is in their hands; and these considerations will, no doubt, occupy their serious attention.

The objections to a western port on the score of expense will not, I am sure, escape the attention of the authorities. I take it for granted that the contract vessels will be employed, and not Her Majesty's. If so, it cannot be for a moment supposed that any shipowner will offer his vessels on the same terms, from any of the ports named on the west coast, as he would do from Cork. I think not; for I am satisfied that they would not be insured on the same favourable terms, and their passengers would not be so numerous. This may be a matter of small consideration, but, when it is added to the other objections, it appears to me that it should not be without its weight.

Having expressed myself so confidently of Cork harbour, it may appear necessary to those whom I have the honour to address to state more distinctly my pretensions to advise on this important subject. I beg therefore to repeat, in the first place, that I have no interest or friend to serve; and that I am alone actuated by a sense of public duty.

Entrusted with the command of Cork district for a period of eight years, and having performed my duties of inspection mostly by means of a small cutter allowed for that purpose, I must necessarily have made myself acquainted with its capabilities as a port of refuge, as well as of general resort. In the course of my service I have known dismasted vessels frequently enter the harbour at night; even in thick and bad weather, I

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Capt. Sir Robert Hogan, RN.

have known vessels enter both by day and night, when neither shores of the entrance could be seen from the middle of the channel; in short, I have known vessels brought in, in safety, when, I am satisfied, it would not be attempted anywhere north or north-west of Cape Clear.

With respect to the pilot service on the coast of Cork, I would beg to draw the Commissioners' attention to the fact, that pilot vessels, hookers, and cutters, belonging to Cork and Kinsale, are to be found in all weather, cruising near the Old Head of Kinsale, and they can perform this service, even in the severest gales from the south-west, because they have not a lee-shore to contend with. There are numerous headlands affording temporary shelter, and they run under these, when it blows too hard to show canvass. Be it remembered, too, that these vessels are numerous, because Cork has become a most important port for the trade, to wait orders. Hence ample employment and consequent encouragement to the owners and crews, the former being wealthy ship agents, who find it their interest to keep these vessels at sea. I need not point out to professional men the advantage to be derived from this circumstance; but I would ask, can any one of the competing ports offer such advantages to the anxious seaman, approaching a wild coast on a December night, with a heavy gale, thick weather, and no observation for the three previous days? But I may answer the question myself—they cannot.

Lastly, I beg to remind the Commissioners of the facilities which Cork possesses for refitting and repairing vessels. I presume they are well acquainted with the fact, it is therefore not necessary for me to dwell on it. I would therefore sum up by expressing my conviction that, if my reasons are not idle dreams, they make out a case for the noble harbour of Cork above all cavil and question.

Edward Rose, Master, R.N.

Edward Rose, Master, R.N.

Though recently paid off, after being thirteen years in command of a mail steam packet on the Irish station, my duties never took me to the westward of the port of Waterford; but to the best of my recollection and ability I will give my impressions of such parts of the west and south-west coast as I visited while master of H.M.S. "Brazen" in 1822.

1. Fourteen years.
2. Once.
3.

Cork	Three times.
Berehaven . . .	Twice.
Valentia . . .	Once.
Galway . . .	Several times.

4. Safe harbours, but difficult of access unless in clear weather.
5. Never.
6. Very hazardous, being a lee shore with the prevailing winds, which are generally accompanied by thick weather.
7. Cork.
8. The soundings better, indicating approach to danger.
9. Cape Clear.
10. Cape Clear light.
11. }
12. } No.
13. }
14. In case of necessity would give Cork the preference.

REPLIES TO QUERIES. (No. 8.)

Post Office.

Post Office.

1 and 2. The *night* mail leaves the General Post-Office, London, for Dublin, at 8 P.M., and reaches Dublin about noon the following day.

The *day* mail is conveyed by the Railway Company's express train to Chester, leaving Euston-square Station at 5 P.M., and the letters reach Dublin about 7 A.M. on the following morning. Letters from London *for Ireland only* are conveyed by this train, and no intermediate bags are delivered or taken up.

The London *night* mail leaves Dublin at 12·30 P.M., and reaches the General Post-Office, London, at 5·18 A.M. on the following morning.

The London *day* mail leaves Dublin at 7 P.M., and reaches the General Post-Office, London, at 1·30 P.M. on the following day.

3. The time is, on the whole, pretty accurately kept, although occasional delays are unavoidable. The delay seldom exceeds half or three-quarters of an hour, except in cases of accident.

4 and 5. The night mail leaving the General Post-Office, London, for all parts of the United Kingdom, at 8 P.M., reaches

Cork at	4· 0 A.M.	the next day but one.
Long Island (Skull nearest post-office)	3·20 P.M.	do.
Crookhaven	5·20 P.M.	do.
Berehaven (Castletown nearest post-office)	8·50 P.M.	do.
Valentia	6·10 P.M.	do.
Limerick	2· 8 A.M.	do.
Galway	7·50 A.M.	do.

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REPLIES TO QUERIES. (No. 8.)

Post Office.

The express *day* mail leaving London at 5 P.M., reaches Cork at 5·0 P.M. next day Limerick 3·30 P.M. next day. The other places named have no day mails from London.

The London *night* mail leaves

Cork at	7·45 P.M.
Long Island (Skull nearest post-office)	8·20 A.M.
Crookhaven	6·20 A.M.
Berehaven (Castletown nearest post-office)	3· 0 A.M.
Valentia	5·50 A.M.
Limerick	10·15 P.M.
Galway	4·40 P.M., and reaches London at 5·18 A.M. on the next morning but one.

The London *day* mail leaves Cork at 9·15 A.M., Limerick, 10·40 A.M., and reeches London at 1·30 P.M. the next day. The other places named have no day mails to London.

6, 7, and 8. There are no direct mail packets between Liverpool and Dublin. The transmission of letters between Liverpool and Dublin is effected, *viâ* Chester, in connection at that city with the mein communication between London and Dublin. Letters are despatched from Liverpool at 8·35 P.M., and reach Dublin about 7 A.M. on the following morning; and letters leaving Dublin at 7 P.M., reach Liverpool at 6 A.M. on the following morning.

9. Letters despatched from Glasgow at 8·35 P.M., reacb Liverpool at 6·25 A.M. on the following morning.

Letters despatched from Liverpool at 3·45 P.M., reacb Glasgow at 2·10 A.M. the following morning; and letters despatched from Liverpool at 8·42 P.M., reach Glasgow at 12·40 P.M. on the following day.

10. Letters between Glasgow and Dublin can he forwarded either *viâ* Holyhead, or *viâ* Greenock and Belfast.

By the Holyhead route, letters despatched frnm Glasgow at 11·40 A.M., reacb Dublin about noon the following day, or if despatched at 8·35 P.M., tbey reach Dublin about 7 A.M. the next morning but one.

Letters despatcbed from Dublin at 12·30 P.M., reacb Glasgow at 12·40 P.M. on the following day; or if despatcbed from Dublin at 7 P.M., they reach Glasgow at 2·10 A.M. the following morning but one.

By the Greenock and Belfast route, letters despatcbed from Glasgow at 6 P.M., reacb Dublin at 3·30 P.M. the following day; and letters despatched from Dublin at 9·45 A.M., reacb Glasgow about 7 A.M. the following morning.

11. The American mails are made up at *Liverpool,* and are despatched sometimes by *British,* and sometimes by *United States'* packets. The British packets leave Liverpool every Saturday in April, May, June, July, August, September, October, and November, and every alternate Saturday in December, January, February, and March. They proceed alternately to New York *direct,* and to Boston, *viâ Halifax.* The United States' packets leave Liverpool once a fortnight, and invariably proceed *direct* to New York. The time of despatch depends upon the state of tbe tide, the hour varying from about 10 A.M. to 5 P.M.

On the night previous to the despatch of a packet from Liverpool, bags for tbe United States and for the several North American Colonies are made up in London, containing the letters posted or arriving in London during that day; but all letters posted at an earlier period are sent day by day to Liverpool, to be included in tbe mails made up at tbat port.

An United States' mail packet is also despatched on the 20tb of each month from Southampton, after the arrival of the day mail from London, that is, about 3 P.M. This packet invariably proceeds to *New York direct.*

12. Tbe mails for this country made up in the United States and in the Britisb North American Colonies, are separated into two divisions, tbe letters addressed to London being sent in one bag, and the letters addressed to all other parts of the United Kingdom being sent in another bag, which is directed to and opened at Liverpool.

The letters for *Liverpool* itself are delivered by the first delivery which takes place after the sorting of the letters has been effected, and the bags for London, as well as the letters for the rest of the United Kingdom, are despatched by the first *ordinary mail train,* whether on week days or Sundays. They are in no case sent off from Liverpool by express.

13. The mails from the West Indies, the East Indies, and the Peninsula, are landed at Southampton, but as the force at the Post-Office of that port is not sufficient to dispose of such heavy mails, they are always sent unopened to London. If by the employment of an ordinary train (not a mail train) an arrival at the General Post-Office before 5 P.M. can be effected, the Postmaster of Southampton is authorized to despatch the mails from the West Indies or the East Indies to London by such train; and further, in the case of a mail from the West Indies, he may employ a special train, if by so doing the mails can reach the General Post-Office by 5 P.M., but otherwise they remain at Southampton for the first mail train.

Tbe mails from the Peninsula are despatched from Southampton to London by the first ordinary or mail train.

The mails from Brazil are landed and opened at Falmouth, and the letters are always sent forward by tbe ordinary mail trains, but the letters are very few.

14 and 15. It has already been stated above, in reply to question No. 11, that mails are forwarded to New York by United States mail packets, as well as by the Britisb (or Cunard's) packets, but no mail packets otber than Cunard's call at Halifax.

Occasionally, letters both for the United States and for the British North American provinces, are directed, by "*private ship,*" and such letters are forwarded by the first ship not

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a mail packet, sailing after their being posted. The periods of the sailing of such private ships are quite uncertain.

16. The rate of speed at which the mails are conveyed by railway in Great Britain and Ireland differs on almost every line, varying from about 20 to 35 miles an hour.

17. It has always been looked upon as a matter of importance to effect as rapid a communication as possible by post between London and Dublin, and the utmost acceleration that can be afforded without incurring the expense of a special train has been carried out. It is not anticipated that any further acceleration can be obtained, unless it be by an improvement in the packet service between Holyhead and Kingstown, the average passages by the contract packets having been somewhat longer than during the period that the service was performed by Admiralty vessels.

18. The only other mails, besides the Dublin mail, for the acceleration of which particular efforts have been made, are those between Glasgow and Liverpool, and between London and Dover, for the improvement of which, special mail trains at a high rate of speed have been established.

19. There are no measures in contemplation at the Post-Office for the acceleration of the mail communication with the ports of the south and west of Ireland. The completion of the railway from Mullingar to Galway, in the course of about 12 months, will, however, have the effect of accelerating the communication with that particular port.

20. A return has been ordered to be kept of the amount of correspondence sent to, or received from, North America for a fortnight.

21. There are no other points, relative to which the Post-Office can furnish information, which appear likely to be useful in the present inquiry.

General Post Office, November 27, 1850. (Signed) W. L. Maberly.

Return prepared in reply to No. 20 *of the above Queries.*

My Lord, *General Post Office, December* 13, 1850.

I have now the honour to transmit to your Lordship, for the information of the Transatlantic Packet Station Commissioners, in reply to Query No. 20, referred by the Commissioners to this Department, the enclosed return, showing the number of letters despatched by packet, from Liverpool to the United States and British North America, and also the number of letters received at Liverpool by packet from those places, during the fortnight ended the 8th instant, distinguishing the letters posted in Liverpool, and those received from Ireland, from the North, and from London and other parts of England, as well as those received for Liverpool delivery, and for Ireland, the North, and London and other parts of England.

It is necessary for me to observe, however, that in the statement of letters *received*, the contents of one complete mail, and of *the London portion only* of a second mail, are included. This circumstance is owing to the arrival in London of an American mail on the first day of the enclosed account being taken, while the Liverpool portion had been disposed of previous to the commencement of the account at the Liverpool Post Office; and it is unfortunate that, owing to the late arrival of the last packet from America, which reached Liverpool after the time fixed for closing the account, the discrepancy could not be remedied by the insertion of the Liverpool portion of that mail.

The present return being thus incomplete, I propose to order another account to be prepared for the information of the Commissioners.

I have, &c.,

Lord Hobart, W. L. Maberly.
Board of Trade.

Number of Letters despatched by Packet from Liverpool to the United States and British North America, during the fortnight ended the 8th December, 1850.

1. Letters posted in Liverpool	8,695
2. Letters from Ireland	28,018
3. Letters from the North	7,024
4. Letters from London, and other parts of England	32,772
Total	76,509

Number of Letters received at Liverpool, by Packet, from the United States and British North America, during the fortnight ended the 8th December, 1850.

1. Letters for Liverpool delivery	3,033
2. Letters for Ireland	12,399
3. Letters for the North	2,641
4. Letters for London, and other parts of England	29,451
Total *	47,524

* In consequence of the late arrival of the "Cambria," the account taken *at Liverpool* only comprises one mail instead of two, which, in due course, should have arrived in the fortnight. The account taken *in London* includes two mails, as a packet arrived at Liverpool on the *day previous* to the commencement of the account, and, consequently, the London portion of the mail brought by such packet came into the account, while the Liverpool portion was excluded.

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Replies to Queries. (No. 8.)

Post Office.

My Lord, *General Post Office, January* 28, 1851.

With reference to my letter of the 13th ultimo, I have the honour to enclose, for the information of the Transatlantic Packet Station Commissioners, a return of the number of letters received at Liverpool by two separate packets from America, distinguishing the proportion of letters for Liverpool delivery, for Ireland, for Scotland, and for London and other parts of England, in accordance with the direction contained in Query No. 20, forwarded to this Office in your Lordship's letter of the 22nd November last.

I beg leave to inform your Lordship that a return, giving similar particulars with respect to the number of letters comprised in an outward mail, will be sent to you in a few days.

I have, &c.,
W. L. Maberly.

Lord Hobart, &c., &c.,
Board of Trade.

Number of Letters received at Liverpool by Packet from the United States and British North America, by two separate Mails, received respectively on the 21st and 28th December, 1850.

	Mail of Dec. 21.	Mail of Dec. 28.
1. Letters for Liverpool delivery . . .	2,336	2,493
2. Letters for Ireland	7,289	11,902
3. Letters for the North	1,637	2,721
4. Letters for London and other parts of England .	17,595	17,266
Totals . .	28,857	34,382

My Lord, *General Post Office, February* 5, 1851.

I have now the honour to enclose, for the information of the Transatlantic Packet Station Commissioners, a return of the number of letters despatched from Liverpool to America, by the mail packet, made out in a manner corresponding to the return of the number of letters received from America, which I forwarded to your Lordship on the 28th ultimo.

I have, &c.,
W. L. Maberly.

Lord Hobart, &c., &c.,
Board of Trade.

Post Office.

Number of Letters despatched from Liverpool by Packet for the United States and British North America, by the Mail of the 1st February, 1851.

1. Letters posted at Liverpool	5,143
2. Letters received from Ireland	27,861
3. Letters received by the North Mails.	5,399
4. Letters received from London and other parts of England .	28,444
Total . . .	66,847

REPLIES TO QUERIES. (No. 9.)

Replies to Queries (No. 9.)

Custom House,

My Lord, *Custom House, London, December* 17, 1850.

I have the honour to acknowledge the receipt of your Lordship's letter of the 29th ultimo, signifying the request of the Transatlantic Packet Station Commissioners to be furnished with certain information, as therein detailed, upon the subject of the lines of packets or other steamers already established or now in contemplation, running between the ports of Glasgow (Greenock, &c), Liverpool, Southampton, and London and North America, or which touch at those ports on their way to the last-mentioned country, with any particulars relating thereto which could be obtained.

And I am desired by the Commissioners of Her Majesty's Customs to acquaint you, for the information of the Transatlantic Packet Station Commissioners, that in reply to the inquiries which have been instituted at the ports before mentioned, it is stated that there are not at present any steamers established between North America and the ports of London, Greenock, or Port Glasgow, or which touch at those ports on their way to or from North America; nor, so far as the officers of this department are enabled to learn, is it proposed to establish any such vessels.

This Board, however, is informed, that at Glasgow a screw steamer of about 1,850 tons, builder's measurement over all, is being constructed for a joint stock company, to be employed on private account between that port and New York, to carry ship letters but not to be employed as a mail-packet, or to be subject to the arrangements of the British or foreign Governments, or to receive contributions from them; that the vessel will sail monthly from Glasgow and New York; that the rate of charge will probably be, for

First-class passengers . . .	20 guineas.
Second class ditto . . .	12 ditto.

And that it is not intended to carry steerage passengers. The rate of charge for freight to be 3*l.* 10*s.* per ton measurement.

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I am at the same time desired to forward herewith copies of the replies which have been received from the officers of this revenue at the ports of Liverpool and Southampton with respect to the dimensions and other particulars connected with the vessels running between those ports and North America. Replies to Queries. (No. 9.)

I have, &c.,
W. Maclean, *Secretary.*

The Lord Hobart,
&c. &c.

REPLIES TO QUERIES. (No. 10.)

Replies to Queries. (No. 10.)

Captain Bedford.

Capt. Bedford, R.N.

Galway, December 12, 1850.

My Lord,

I have the honour to transmit, for the information of the Transatlantic Packet Station Commissioners, my answers to the various Queries proposed in your Lordship's communication of the 6th instant.

I have endeavoured to be as explicit as possible on the various subjects in question; but if, in my anxiety to do so, I may seem to have encroached beyond my bounds, or to have drawn erroneous deductions of the merits of some of the ports from the mere examination of the charts of those places, and not from personal experience, I can only say that my desire to afford such information and suggestions as I thought might assist the Commissioners in their important investigations, has led me into this error.

I have, &c.,
Geo. Augustus Bedford,
Commander and Admiralty Surveyor.

The Right Hon. Lord Hobart,
&c. &c.

1. The vessels belonging to the Port of Galway, in 1849, amounted to 21, whose aggregate tonnage was 4,251. The home trade is usually carried on in schooners of about 130 tons, whose draught of water, when loaded, is about 13½ feet. The larger vessels, which are from 200 to 500 tons, are employed in conveying emigrants to America, and return with cargoes of grain or timber.

2. In 1847, during the famine, and when the provision trade was at a maximum, 142 foreign vessels arrived with cargoes; the largest of them were ships of about 500 tons, drawing 17½ feet water when loaded. These were lightened, in the roads, to 14½ or 15 feet, the maximum draught which the pilots consider it prudent to take into the docks. A ship has gone into the dock drawing upwards of 16 feet, but it was at the height of a good spring tide.

3. From information obtained from the resident Marine Insurance agent, and the shipowners, I learn that the rate of insurance between Galway and Liverpool for good vessels, classed A 1, is about 10*s.* 6*d.* per cent. in the summer, and from 30*s.* to 60*s.* per cent. in the winter. The rates generally paid on vessels between this port and New York are—

In the summer months, 20*s.* to 35*s.* per cent.; in the winter months, 55*s.* to 63*s.*

The vessels leaving the port are not of the same class or character as those leaving the port of Liverpool. They are generally built in America, and some of them are not classed. To these circumstances, combined with the very vague knowledge which exists respecting the coast, and the deficiency of lights, the high rates of premium are probably due; and it is but reasonable to suppose that if these objections were removed, the rates would be lower from Galway than from other ports.

I am unable to assign any other cause for the difference between the summer and winter rates, than the increase of risk which naturally attaches to all voyages made during the winter in this part of the world.

4. I have stated in Answer 4 (second series) that I consider the facilities for approaching the Port of Galway to be as great as any with which I am acquainted; and that it was not customary to employ a pilot, except in going from the roads to the docks, which is a compulsory port regulation, for the purpose of maintaining the two pilots belonging to the harbour establishment. In the first place, the trade of the port would not support a system of cruising outside the bay for the purpose of piloting vessels in; and, secondly, (which bears more directly on this question) it must be almost evident to a practised navigator who should examine the charts and sailing directions, imperfect as they are, that a pilot is unnecessary. But with the Admiralty surveys to guide him, no sailor, accustomed to use charts, need hesitate to run with confidence, whenever it would be prudent to do so, for any port. In asserting this, I would wish to be understood as assuming the Arran Islands to be lighted according to the improvements about to be undertaken, and not as in their present state, of which I shall speak hereafter.

It seems almost superfluous to remark that, in order to justify any navigator in making the land, he must have a tolerably correct knowledge of his position. To attempt to run for a harbour on a lee shore, with a reckoning unconnected by astronomical observations for one or more days, I should pronounce to be reckless: nor even with an undoubted position, would it be justifiable to run in thick weather when the land could not be seen at a sufficient distance to enable a ship to recover herself from the danger into which she may have fallen. And if this be true with one well acquainted with the locality, to whom the glimpse of a point, or other known feature, would inspire confidence, how much more reckless would it be in a stranger! In such weather pilots could neither see or be seen, and consequently would be useless. The observations apply to all navigations, but with far greater force to harbours with narrow entrances and intricate channels. And comparing the several ports under consideration, where is the one whose natural facilities equal Galway, or in which there is a less demand for artificial works to render it both a magnificent harbour and an eligible port for transatlantic communication?

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Replies to Queries. (No. 10.)

Capt. Bedford, R.N.

Although I have not a personal knowledge of some of the ports of which I presume to speak, yet I have surveys of them which I have carefully scrutinized; and with the confidence derived from many years' experience in coast navigation, which has made me familiar with its dangers, I do not hesitate, as a sailor, to give my preference for Galway. I have already treated of Valentia: and now that I have the Admiralty survey of Berehaven before me, I think I have said more in its favour than it deserves. As a harbour of refuge it has serious defects. Its western entrance may be classed with Valentia; and there must be considerable risk in suddenly hauling up to enter the haven on its eastern side, with a strong gale blowing into the bay. And when the gale has subsided, leaving a heavy swell from W.S.W. rolling in, and probably a light wind blowing, no sailing vessel could attempt to leave the port without incurring risk of danger. Nor does it seem to be a harbour for which a ship could prudently run in the state of the wind and sea above assumed should she be partly dismasted, or damaged in sails or machinery, so that she could not command her steerage in the entrances. It is not, therefore, what a harbour of refuge ought to be, that is, easily accessible during the storms which make a refuge necessary: but the sailor will at once see the hazard of hauling up across a W.S.W. gale and heavy sea, so as to pass between Bere Island and Roancarrig; and in attempting to tack (which he would be required to do) he might miss stays and go on shore. And independent of the port it has been asserted by eminent engineers, that the cost of a railroad to connect Berehaven with any of the lines now in operation, could not fall far short of a million sterling, one quarter of which expended on marine works in Galway harbour would convert it into a magnificent port.

Similar objections are attached to Crookhaven; and, if we examine Cork, it must be evident that where so many buoys are required for day navigation, several lights would be necessary to guide a ship in a dark night through its curving channel.

And, lastly, to compare the spacious inlet of Galway with Liverpool, the second commercial port in Great Britain, with its six lighthouses, their light-vessels, and forty-four buoys and beacons, to render navigable its very intricate channels, which are only accessible at certain times of tide, we might well be astonished at its present exalted position, if we were but ignorant of the fact that, bad as it is, it is perhaps as good as any of the natural harbours to be found along the western coasts of England and Wales, Milford Haven excepted: and its proud pre-eminence is a monument of the indomitable energy, skill, and perseverance of the Saxon, whose commercial spirit will find an outlet through every difficulty. Liverpool is a bar harbour—its channels are continually undergoing changes—old ones are filling up while new ones are opening out, so that pilots are essentially necessary; and they and the port surveyor must be ever on the watch to mark these changes, and to maintain the light-ships, buoys, and beacons, in their positions, on the stability of which depends the navigation of the port.

I lately extracted from a newspaper the following paragraph:—

"Liverpool, November 24, 1850.—The British and North American royal mail steamship, 'Canada,' Capt. Harrison, which arrived off the north-west light-ship at 7·30 this morning, arrived in the Mersey at 11·30 A.M."

Now, it is just one hour's steaming, or about 12 miles from the north-west light-ship to Liverpool, so that there was a detention of three hours in reaching the port, consequent on the state of the tide, which, at the time of her arrival at the light-ship, was within about half-an-hour of low water. Had she, therefore, reached the channel entrance an hour or two earlier, the delay would have been so much the greater. Besides which, I suppose, she had previously hove-to for a pilot, an operation which, in a gale of wind and heavy sea, must, I imagine, consume some appreciable time.

To the difficulties and delays in reaching the port of Liverpool, must be added the risk of the coast and channel navigation between it and Ireland, a distance of more than 300 miles, or about one-eighth of the transatlantic voyage. Arriving off Cape Clear, in thick misty weather, unable, perhaps, to verify your position by a sight of the land or coast-lights, the continuance of the voyage must be attended with considerable anxiety and risk; a fact which has been so recently exemplified in the running on shore of the "America" transatlantic packet ship on the coast of Cork. The deviation of a point of the compass to the eastward of the proper course from Cape Clear to the narrows of the channel between Point Carnsore and the "Smalls," would carry a ship towards the latter danger, or on the Welsh coast, a contingency by no means improbable in a run of 180 miles through varying currents. Wrecks sometimes occur under most extraordinary and unaccountable circumstances; as, for instance, the "Great Britain," in Dundrum Bay: and whatever may have been the cause of this untoward event, it is highly improbable that a similar accident could result to a ship leaving a port on the western coast of Ireland, having no intervening dangers except such as are common to ocean navigation.

All these circumstances considered, it seems conclusive that the shortest sea voyage carries the least risk.

5. In the latitude of Galway Bay, the line delineating the 100 fathoms edge, swells out to a distance of 60 miles to the westward of the Arran Islands, while it approaches to within 20 miles of the Skelligs, off the south-west point of Ireland. This has been determined by Captain Vidal, R.N. My soundings have only extended 15 miles due west of the extremity of the Arran Isles, where the depths vary from 50 to 60 fathoms. The intervening space to the 100 fathoms edge has not yet been explored; but it is probable that the soundings decrease very gradually over this expanded area, while the changes become more rapid both on the north and south. The lead will, therefore, forewarn much sooner in the course between America and Galway, than it will between the former and south-western coast of Ireland. The bottom (so far as my survey will permit me to speak) is entirely a muddy sand in approaching

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the Arran Islands from America, while in the parallels of Mal Bay, and towards Slyne Head, it becomes of a varied character, so that a careful attention to the rate of decrease in the soundings, combined with the character of the bottom, would materially assist in approximating the position of a vessel.

6. Gregory and Foul Sounds, which separate the Arran Islands from each other, are one mile in width between the five-fathom edges, and have a depth of 15 and 20 fathoms throughout. In the south sound, between Inisheer and the Clare coast, the Finis rock lies half-a-mile from the former, leaving a perfectly clear channel 3½ miles wide. The Clare coast is steep-to all the way from Hags-head to Black-head, to within a third of a mile from the shore. The north sound is equally wide; but the ground being uneven the sea breaks, in bad weather, over some shoals of seven and eight fathoms, which extend two miles from Arranmore. There is, however, in its most contracted part a channel two miles wide where the depth exceeds 20 fathoms. If ships should run into danger in passing through either of the sounds, the fault would be that of the navigator, and not in the natural difficulties.

7. The only dangers to be apprehended in approaching the anchorage of Galway, occur about two miles below Mutton Island. These are the Black Rock on the north side, and the Margaritta on the south. On the former there is a beacon, and on the latter a buoy, to mark the rock on which there are but 11 feet at low water of spring tides, with a shoal of 18 and 20 feet, extending half-a-mile to the westward of it. The narrowest part of the channel, in which the depth exceeds five fathoms, is here nearly six-tenths of a mile in width, and leads in a direct line to the anchorage. In hazy weather, such as to obscure the beacons, or Mutton Island light, there would naturally be a danger of running on them. But this would be obviated by a small light on the Black Rock, or by a light-vessel moored near it. This should have been done long since. When Mutton Island light can be seen there cannot be any difficulty in keeping in a channel, more than half-a-mile wide, by the bearing of that light. A reference to the Admiralty chart of Galway Bay, which shows all the features within Black-head, will clearly illustrate my statements. I should consider a man unfit to navigate his ship who (though he be a stranger) could not bring his vessel to an anchorage in Galway Roads, without any other guide but a correct chart and sailing directions.

8. The present light on Arranmore is undoubtedly misplaced in every way. Its great altitude of 446 feet renders it liable to be obscured by fog or haze, when the lower parts of the land may be distinctly visible. Its position also seems to have no reference to Galway Bay, it being six miles from the north-west, and more than eight miles from the south-east extremity of the island, and is therefore a very imperfect guide to ships making for either sound. A bearing of the light will certainly indicate your proximity to either end of the range, and from the mural character of the Atlantic face of these islands, it must be very thick to prevent a ship from seeing the sounds. Nevertheless it is unquestionably a glaring defect, which I am happy to say is about to be remedied by the substitution of a light at each extremity, and the sooner this is executed the better for navigation. The natural capabilities of the harbours on the western coast of Ireland are undoubted, but the artificial works are deplorably deficient. Between Galway and Westport Bays not a single light is placed to guide the distressed vessel, or the numerous fishing-boats, into the many harbours that indent the coast of Connemara.

When, therefore, the lights shall have been exhibited at the extremities of the Arran Islands, and I should hope also on Straw Island (as recommended by me to the Dublin Ballast Board), together with the proposed light at the Black Rock, mentioned in Answer 7, every facility will be afforded for reaching Galway harbour.

9. It will be seen by the chart of Galway harbour that 4 or 5 feet may be carried over the bar at the mouth of the Corrib at low-water spring tides. Indeed, the soundings were reduced nearly a foot below the average level of low water. Passing this bar you enter the channel scoured out by the river, in which the depth increases to 12 and 13 feet, leading up within a very short distance of the docks. I am therefore of opinion, that a steamer of 20 or 30 horse power, 50 tons burthen, and drawing 3½ or 4 feet water, would at all times of tide and weather (except in those fierce gales which occur two or three times in a year, and in which all business on the water, wherever it may be, necessarily ceases), convey the passengers and mails to and from the packet, within a very short distance (say 100 yards) of the dock steps, which landing is less than one-third of a mile from the railway terminus, to which a road leads. At neap-tide low water such a steamer would go alongside the dock wall, and, when unable to do so, the landing could be readily effected in an appropriate boat. It may therefore be conceded, that a communication with the shore could always be insured, except in the extraordinary gales already noticed. Distinguishing lights, the one on Nimmo pier, the other at the entrance of the canal (both of which will be necessary independent of this use) would be a guide over the deepest part of the bar, and I have no doubt that the application of the dredge would increase this depth by two or three feet.

10. Supposing the packet to arrive just after the time at which the proposed auxiliary steamer could go alongside the dock wharf (which would be at the last quarter ebb of a spring tide), then the delay would be three hours. This is about the maximum. But with the use of the boat already mentioned there would be no delay whatever.

11. The distance which boats would have to sail or pull from the packet in the roads, to the landing at the docks, is three quarters of a mile.

12. One mile and two-thirds by the road.

13. The heavy gales, such as might prevent communication with the shore by means of an auxiliary steamer, are such as I have alluded to (in Answer 9) as occurring two or three times in a year; but I cannot speak precisely. These gales comprise all the exceptions or impediments I have in several places quoted.

14. In my previous statements I have endeavoured to show the various ways by which at unbroken communication might be maintained, if not by the packet, at least by the auxiliary

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Replies to Queries. (No. 10.)

Capt. Bedford, R.N.

steamer, with the shore. I have no hesitation, however, in giving an opinion that the mere communication could be effected in the way I have proposed (9) without the aid of any other pier or quay than what the port at present affords. But there cannot be a doubt than if Galway were made a packet station, a dock, capable of receiving the steamers employed, would be indispensable; and that it would also be very desirable that a pier, such as I have proposed in my last Report, be constructed to enable these vessels themselves to debark or receive their passengers, mails, and goods.

I have, &c.,
GEO. AUGUSTUS BEDFORD,
Commander and Surveyor.

To the Transatlantic Packet Station Commissioners.

Replies to Queries. (No. 11.)

Post Office.

REPLIES TO QUERIES. (No. 11.)

The Post Office.

1. If Cunard's line of mail packets were ordered to call at Holyhead for the North American mail, the London portion of the mail would be despatched from the General Post Office at 8 p.m., and would arrive at Holyhead at 5·49 a.m. on the following morning.

If all the cross-road correspondence continued to be made up at Liverpool, as at present, and no sorting or making-up had to be performed at Holyhead, *one hour* would probably be sufficient for conveying the bags from the railway station direct to the pier, independent of the time necessary for putting them on board the steam packet. But if all the cross-road correspondence had to be sorted and made up at Holyhead, as it is now sorted and made up at Liverpool, a large force would be required for that duty, and at least *four hours* must be allowed between the arrival of the mail train from London, and the despatch of the American packet.

2. A statement is annexed, showing the force now employed in the Packet and Ship Letter Office at Liverpool, and also the expense incurred in maintaining such force.

The necessity for a large portion of this force is no doubt consequent on the steam packets landing and embarking the American mails at Liverpool; but the services rendered are not confined to the British or Cunard line of packets, but apply also to the United States' mail packets, called "Collins's line."

In addition to the regular force of the Packet Office, the services of three or four stampers, and at least two clerks, from the Inland Office, are given to the Packet Office during the mornings on which the packets are despatched.

The cost of conveying the London portion of the American mails between the railway and the Post Office at Liverpool is included in the contract for the daily mail-cart conveyance of the whole of the mails between those two points. The outward mails are conveyed from the Post Office to the pier at an expense of about 25*l.* a-year; and from the pier to the packet they are conveyed in a small steamer belonging to the contractors, and at their expense. The mails arriving by the *homeward* packet are conveyed from the packet to the Post Office by the contractors, and also at their expense.

3. It is apprehended that little reduction in the establishment, either of the Packet and Ship Letter Office or of the Inland Office, at Liverpool, could be effected, in consequence of the Cunard steam packets being ordered to call at Holyhead to embark and land their mails, so long as the *United States'* line of packets continue to come to Liverpool, as the present force would still be requisite to check, stamp, and forward the correspondence brought and despatched by those vessels.

4. If the American mails were merely landed at Holyhead and embarked at that port, but were made up in London and Liverpool as at present, the accommodation required would be simply a room of not less than nine or ten yards square, with a force of one or two clerks and three or four porters, to open and make up the portmanteaus, to sort, examine, and re-label the bags, so as to have that duty accomplished, as regards the outward mails, within an hour. But if the bags are to be *made up* at Holyhead for the outward packet, and the mails to be opened, checked, stamped, and charged at Holyhead on the arrival of a packet, in the same space of time that is now occupied, it is estimated that the following establishment would be required, viz.:—

Packet Office.

Chief clerk	£170	a-year.
Second ditto	115	„
Five ditto at £70 . . .	350	„
Five stampers at 70 . . .	350	„
One extra ditto at 52 . . .	52	„
Additional pay for extra attendance about	100	„
	£1,137	„

Inland Office.

One senior clerk	£100	a-year.
Two clerks at £90 . . .	180	„
Two ditto at 80 . . .	160	„
Three ditto at 70 . . .	210	„
Four ditto at 60 . . .	240	„
Five newspaper sorters at 15s. a week each	195	„
	£1,085	„

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In addition to these allowances it would of course be necessary to increase the salary of the postmaster of Holyhead, who at present receives 70*l.* a-year only, but whose duty and responsibility would be so much augmented. An office must also be provided at the expense of the department.

5. In the event of the American mail packet arriving at Holyhead in the evening after the departure for London of the last train (which departure takes place at 7 p.m.), the mails would have to remain at Holyhead until the despatch of the up day-mail train at 2 a.m. the next morning.

6. At present the Post Offices in the United States and in British America make up the mails for England in two divisions,—one containing the letters *for London*, and the other containing the correspondence for all other parts of the United Kingdom. It is presumed that this arrangement would be continued if the mails were landed and embarked at Holyhead, and, in such case, the bags *for London* would be sent forward without being opened at Holyhead.

7. The duties now performed in the Packet Office, Liverpool, occupy generally about six hours on the arrival of a packet; and if a similar force were employed at Holyhead, a like period of time would be required for sorting and despatching the letters.

8. If Galway were established as a Transatlantic Packet Station, the mails to and from that port would be forwarded by the Chester and Holyhead Railway. They would leave London at 8 p.m., and would reach Holyhead at 5·49 a.m. the next morning. About 15 minutes would be occupied in placing the mails on board the Kingstown packet at Holyhead. No additional expense whatever would be incurred in the conveyance of the bags across the Irish Channel from Holyhead to Kingstown. The packet would reach Kingstown about 11 a.m., and about half or three-fourths of an hour would elapse before the bags reached the Dublin Office. They would remain in Dublin until 7 p.m. the same evening, at which hour the general despatch of all the night mails from Dublin to the interior of Ireland takes place. It occupies 10 minutes to convey the bags from the Dublin Post Office to the terminus of the Midland Great Western Railway, along which line the Galway mails are conveyed as far as Mullingar.

9. Supposing the railway from Dublin to Galway were finished and employed by the Post Office, the mails leaving Dublin at 7 p.m. would reach the Post Office, Galway, at about 2 a.m. the following morning, assuming the same speed as is maintained over the portion of the line now used. It is impossible to say what the charge would be for their conveyance from Dublin to Galway, and *vice versâ*, inasmuch as the rate of payment for this service would have to be referred to arbitration, in accordance with the provisions of the Act of Parliament. The payment made at present for conveying the mails over the portion of the line now used between Dublin and Mullingar is at the rate of 13*l.* 10*s.* a day.

10. A force equal to that set down in answer to Query No. 4, as requisite for Holyhead, must be employed at Galway, if the Cunard packets landed and embarked their mails at that port, and the additional expense would be nearly similar in amount.

11. With the force proposed to be employed, about the same time would be required at Galway as at Holyhead to prepare the mails for embarkation.

12. If the packet from North America arrived at Galway in the evening after the last train had left for Dublin, the mails would, according to present regulations, be detained at Galway until the mail train of the following evening, as there is at present but one mail a day between Dublin and Galway.

13 There are only two mails a day from Dublin to London, one leaving the Post Office, Dublin at 12·30 p.m., and the other at 7 p.m. If the North American mails arrived too late for either of these despatches, they would have to be detained for the following despatch.

STATEMENT referred to in Answer No. 2.

——	Salary.	Shipping Information.	Extra Attendance.	Fees from Captains.	For Attending Floating Receiving House.	TOTAL.
	£.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
Chief clerk. . .	170	13 6 8	6 15 5	9 18 10	5 7 6	205 8 5
2nd clerk . . .	115	6 13 4	11 17 8½	4 19 5	1 0 0	139 10 5½
3rd ,, . . .	70	..	10 16 3	..	..	80 16 3
4th ,, . . .	70	..	12 1 10½	..	..	82 1 10½
5th ,, . . .	70	..	4 1 10	..	..	74 1 10
6th ,, . . .	70	..	10 3 1½	..	..	80 3 1½
7th ,, . . .	..	..	..	..	..	..
1st stamper . .	70	..	8 14 3	3 18 0	0 5 0	82 17 3
2nd ,, . . .	70	..	10 15 0	..	3 16 6	84 11 6
3rd ,, . . .	70	..	10 8 0	..	..	80 8 0
4th ,, . . .	70	..	7 14 6	..	..	77 14 6
5th ,, . . .	70	..	9 18 0	..	..	79 18 0
6th ,, . . .	52	..	2 15 6	..	..	54 15 6
	967	20 0 0	106 1 5½	18 16 3	10 9 0	1,122 6 8½

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Replies to Queries. (No. 12.)

Lieutenant E. E. Turnour, R.N.

REPLIES TO QUERIES. (No. 12.)

Lieutenant E. E. Turnour, R.N.

1. The "Shearwater" is charged for coals brought off and delivered on board in Galway Roads, 24*s.* per ton, and the coals are originally brought from Glasgow.

The boilers contain between them 40 tons of water, when loaded.

2. The "Shearwater" lay in Galway Roads, about one-third of a mile from Mutton Island, and two-thirds of a mile from the landing-place off the town, and in 20 feet at low-water spring tides.

3. From the 11th of December, 1848, to the 24th of February, 1849.
„ 28th of November, 1849, „ 30th of December, „
„ 30th of July, 1850, „ 28th of November, 1850.

During the first period, had to let go a second anchor and ride with two anchors ahead, upon 19 different days, and twice had to get steam up in readiness to assist the anchors.

The second period had two anchors a-head twice.

The third time stationed, had seven times to let go a second anchor.

4. Not more than six times during the whole time stationed on the coast.

5. About twenty-six days.

6. The wind from south by west to west by south.

7. So many that I cannot state how often, but I have been three weeks at a time without landing, on account of the uncertainty of getting on board quite dry.

8. Whenever the wind was from south-east to west by north, and blowing fresh.

9. No; neither could she land or embark her passengers with comfort. Two-thirds of a mile.

10. At low water, boats cannot reach the steps by at least 60 yards, and the ground outside is composed of mud and large stones.

Slippery, dirty, and disagreeable; but this might be remedied by a slip run out and kept clear of mud as the tide ebbed.

At high water the landing is alongside of a wharf with steps.

11. None at present.

12. About half a mile, and cars might be procured from the hotels.

13. Not less than 60-horse power.

14. At high-water spring tides, 15 feet. At low water a boat even could not go alongside.

15. Twenty-two miles.

16. No.

17. This is answered by the foregoing.

18. Two days each way. The London mail arrives at 7h. 30m. A.M., one day intervening, and the English mail leaves Galway at 4h. 30m. P.M.

Replies to Queries. (No. 13.)

Cunard and Co.

REPLIES TO QUERIES. (No. 13.)

1. In the Clyde, Greenock, and Port Glasgow.

2. Engines and boilers made and put on board at Glasgow.

3. The repairs all executed at Liverpool; but for anything extraordinary, such as new boilers, the vessels go to the Clyde to have them put in by the makers of the engines.

4. Without adequate docks for the reception of ocean steamers, ship-building establishment, and engine and boiler factories, a transatlantic service could not be carried on with any degree of efficiency, being in fact as necessary for the healthy and vigorous existence of such a service as food, raiment, and occasional medical aid are to human existence.

5. They would require to be on a very considerable scale indeed to answer the purpose even temporarily, for it is a delusion to suppose that more engine factories in Ireland, of any magnitude, would meet the requirements, or offer facilities for a transatlantic service equal to what are available in a port such as Liverpool, with its graving docks, engineering establishments, brass-foundries, workers in copper, forges, &c., and its proximity to Birmingham, and the iron districts.

6. Every facility as to docks, foundries, &c., and means of repairs exist at Boston and New York. At Halifax the wharf accommodation is excellent, but there are no graving docks. It is only in case of accident and consequent unavoidable repairs that anything is ever done out of England, and no matter what may have been the necessity of the case, as a matter of policy the engine repairs abroad have always been limited to what the engineers attached to the ships could themselves overtake, so that during the whole period of years the service has been in existence, no engineers but those attached to the ships have been allowed on board whilst repairs were going on within a foreign port.

7. The price of coal for ocean steamers sailing from Liverpool depends on the description which circumstances render it desirable to use; for instance, when cargo can be had in quantity, Welsh coal (from Newport and Cardiff) is an object from its density and durability; but, in the absence of a sufficiency of cargo, the Lancashire coal, though occupying more space, answers the purpose of steaming quite as well. Cardiff and Newport coal is uncertain of arrival, being brought by coasting-vessels, and costs alongside at Liverpool, according to the season of the year, from 15*s.* to 18*s.* per ton. Of Lancashire coal the supply is always unlimited, and easily obtainable, and costs alongside from 10*s.* to 11*s.* per ton.

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REPLIES TO QUERIES. (No. 14.)

Replies to Queries. (No. 14.)

Lloyd's.

J. W. N. Halsted, Esq.

Lloyd's, December 20, 1850.

My Lord,

I have the honour to acknowledge the receipt of your Lordship's letter of the 14th instant, requesting, by direction of the Transatlantic Packet Station Commissioners, that the Committee of Lloyd's will favour the Commissioners with information relative to the difference of premium on vessels making voyages between Liverpool and the southern and western ports of Ireland and North America, and *vice versâ*.

I am instructed by the Committee to state to your Lordship, in reply, that other circumstances in connexion with the risks in question being generally the same, there would be no difference of premium as regards the respective voyages.

I have, &c.,

The Right Hon. Lord Hobart,
&c., &c.,
Board of Trade.

J. W. N. Halsted,
Secretary.

REPLIES TO QUERIES. (No. 15.)

Replies to Queries. (No. 15.)

T. Bevis, Commander, R.N.

Liverpool, December 20, 1850.

My Lord,

I have the honour to acknowledge the receipt of your Lordship's letter of the 16th instant, requiring certain information relative to the Liverpool Docks, which are very numerous, and extending over a space of more than three miles of sea wall; I have, therefore, enclosed a general printed statement of all the docks, which will I hope afford all the required information, if not I shall be glad to furnish anything further to the utmost of my power.

The docks used for steamers of the very largest class are the "Huskisson" and "Coburg."

The time for opening the gates for ingress or egress of vessels depends upon the level of water inside and outside, which varies from an hour to an hour and a half before high water.

The extreme width, including the paddle boxes, of Messrs. Cunard's steam-packets is 65 feet.

I have, &c.,

The Lord Hobart,
&c. &c.

Thomas Bevis,
Commander.

Table of the Liverpool Docks, showing the Area of Water, Quay Space, Width of Entrance, and Depth of Sill for each Dock; also the Lengths of Graving Docks, &c.

The Old Dock (*the Sill of which is the Datum*) contained an area of 3 acres 1,890 yards, and 557 lineal yards of Quay Space;
Its Passage do. do. do. do. 675½ do. 50 do. do.

BASINS AND DOCKS.		Width of Entrance.	Sill under Old Dock Datum.	Coping at Hollow Quoins above Sill.	Water Area.	Total Water Area.	Quay Space.	Total Quay Space.
Dry Basins.		Ft. Ins. Pts.	Ft. Ins. Pts.	Ft. Ins. Pts.	Acres. Yards.	Acres. Yds.	Lineal Yds	Miles. Yards
Sandon Basin		..	..	..	6 904	..	702	
Prince's Basin		..	..	..	4 1,549	..	509	
Seacombe Basin		..	..	..	0 1,805	..	186	
George's Basin		..	..	..	3 1,852	..	455	
George's Ferry Basin		..	..	..	0 1,344	..	160	
Queen's Basin		..	..	..	5 101	..	601	
South Ferry Basin		..	..	..	0 2,927	..	205	
Total Water Area and Quay Space of Dry Basins		..	..	..	..	20 892	..	1 1,000
Wet Docks.								
Sandon Dock	West Gates	70 0 0	6 6 0	32 6 0	10 100	..	867	
Wellington Half-tide Docks	East ,,	70 0 0	6 9 0	34 9 0	..	..	..	
	West ,,	50 0 0	6 6 0	32 6 0	3 813	..	400	
Wellington Dock	West ,,	70 0 0	6 0 0	32 0 0	7 4,120	..	820	
Bramley-Moore Dock	North ,,	60 0 0	6 0 0	32 0 0	..	..	..	
	South ,,	60 0 0	6 0 0	32 0 0	9 3,106	..	935	
Nelson Dock	South ,,	60 0 0	6 6 0	32 6 0	7 4,786	..	803	
Stanley Dock	West ,,	51 0 0	5 8 0	31 8 0	7 120	..	753	
Collingwood Dock	West ,,	60 0 0	6 9 0	32 9 0	5 244	..	553	
Salisbury Dock	North ,,	60 0 0	6 11 0	32 11 0	..	..	..	
	South ,,	50 0 0	6 11 0	32 11 0	3 2,146	..	406	
Clarence Dock	West ,,	47 0 0	3 2 0	29 2 0	5 3,713	54 915		3 327
Passage		..	..	..	0 1,400	..	740	
						..	174	
Clarence Half-Tide Dock	River Entrance	50 0 0	5 6 0	34 0 0	..	6 273		0 014
Graving Dock Basin		45 0 0	4 6 0	31 0 0	1 556	3 4,500	..	0 635
	North Gates	45 0 0	4 9 0	30 9 0	..	..	224	
South Passage		..	..	..	0 500	..	..	
						..	67	
						1 1,056		0 291
Carried forward		..	..	..	..	65 1,904	..	4 407

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Table of the Liverpool Docks, showing the Area of Water, Quay Space, Width of Entrance, and Depth of Sill for each Dock, also the Lengths of Graving Docks, &c.—*continued.*

BASINS AND DOCKS.	Width of Entrance.	Sill under Old Dock Datum.	Coping at Hollow Quoins above Sill.	Water Area.	Total Water Area	Quay Space.	Total Quay Space.
WET DOCKS—*continued.*	Ft. Ins. Pts.	Ft. Ins. Pts.	Ft. Ins. Pts.	Acres. Yards.	Acres. Yds.	Lineal Yds.	Miles. Yards.
Brought forward . . .	..	..	..	..	65 1,904	..	4 407
Trafalgar Dock . . . . . South Gates	45 0 0	4 11 0	31 4 0	5 4,280	..	727	
Lock . . . North and South ,,	45 0 0	5 6 0	30 5 6	0 2,937	..	256	
Half of Passage (South)	..	..	..	0 266	..	37	
					6 2,643		0 1,020
Victoria Dock . . . . . South ,,	40 0 0	4 11 0	31 3 0	5 3,027	..	681	
Half of Passages (North and South) .	..	..	..	0 532	..	74	
					5 3,559		0 756
Waterloo Dock . . . . . North Gates	40 0 0	4 11 0	31 3 0	5 2,790	..	700	
Lock . . . . . North ,,	45 0 0	6 5 0	33 0 0	..			
South ,,	45 0 0	6 8 0	33 3 0	0 2,937	..	256	
Half of Passage (North)	..	..	..	0 266	..	37	
					6 1,153		0 993
Prince's Dock . . . . . North Gates	45 0 0	5 11 0	34 1 0	11 614	..	1,187	
South ,,	44 11 9	5 11 0	34 1 0	..	..	..	
Locks	..	..	..	0 3,275	..	426	
					11 3,889		0 1,613
George's Dock . . . . . North Gates	41 11 9	4 6 0	29 0 0	5 154	..	645	
Ditto Passage . . . . South ,,	40 1 0	4 6 0	28 11 3	..	..	..	
Passage	..	..	..	0 2,439	..	356	
					5 2,593		0 1,001
Canning Dock . . . . . West Gates	45 0 0	6 3 0	32 3 0	..	3 376	..	0 585
Half-tide Basin . . . West Double Entrance from the river	45 0 0	6 4 0	34 6 0	..	2 2,688	..	0 429
East Gates	45 0 0	6 3 0	32 3 0	..	..	..	
Albert Dock . . . . . East ,,	45 0 0	6 0 0	32 0 0	7 2,981	..	812	
North ,,	45 0 0	6 4 0	32 4 0	..	..	..	
Passages	..	..	..	0 561	..	73	
					7 3,542		0 885
Salthouse Dock . . North and West Gates	45 0 0	6 0 0	32 0 0	4 3,168	..	656	
Passage	..	..	..	0 325	..	74	
					4 3,493		0 730
King's Dock	42 0 6	5 0 0	31 1 7	7 3,356	..	800	
Passage	..	..	..	0 540	..	75	
					7 3,896		0 875
Queen's Dock . . . . . North Gates	42 0 6	1 9 0	26 2 0	10 1,853	..	1,082	
South ,,	41 11 6	3 2 0	31 2 6	..	..	..	
Passages	..	..	..	0 1,248	..	173	
					10 3,101		0 1,255
Union Dock . . . . . West Gates	42 0 0	1 9 5	30 10 3	2 2,838	..	407	
Passages	..	..	..	0 647	..	90	
					2 3,505		0 497
Coburg Dock . . . . . River Entrance	70 1 0	5 0 0	31 6 0	4 1,282	..	650	
Passages	..	..	..	0 916	..	97	
					4 2,198		0 747
Brunswick Dock. . . . . North Gates	42 0 0	4 6 0	31 8 0	12 2,120	..	1,005	
Passage	..	..	..	0 624	..	87	
					12 2,744		0 1,092
Brunswick Half-tide Basin . . . West Gates	45 0 0	6 0 0	32 6 0	1 2,071	..	818	
East ,,	42 0 0	5 6 0	31 6 0	..	..	..	
Passage	..	..	..	0 1,317	..	173	
					1 3,388		0 491
No. 1 Dock, South . . . . . South Gates	50 0 0	5 0 0	31 0 0	3 2,298	..	446	
North ,,	40 0 0	5 0 0	31 0 0	..	..	..	
No. 2 Dock, South	45 0 0	5 0 0	31 0 0	11 1,062	..	1,148	
					14 3,360		0 1,594
Total Water Area and Quay Space of Wet Docks	..	..	..	..	174 4,472	..	12 819
,, ,, ,, Dry Basins	..	..	..	..	20 892	..	1 1,060
Total	..	..	..	..	195 524		14 119

Huskisson Dock and Graving Dock } Lock 80 feet Gates, Sill 6 feet 6 below Old Dock Sill.
Do. 45 do. do. do.

The extreme length of the River Wall belonging to the Dock Estate is 3 miles 1713 yards.

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GRAVING DOCKS.		Width of Entrance.	Sill, per Old Dock Datum. Above.	Sill, per Old Dock Datum. Under.	Coping at Hollow Quoins above Sill.	Length at Bottom.	Total Length of Bottom.
		Ft. In. Pts.	Ft. In. Pts.	Ft. In. Pts.	Ft. In. Pts.	Lineal Yds.	Lineal Yds.
Sandon Graving Dock	No. 1. East	00 0 0	..	3 6 0	29 6 0	180	
	No. 2	70 0 0	..	3 6 0	29 6 0	180	
	No. 3	60 0 0	..	3 6 0	29 6 0	180	
	No. 4	70 0 0	..	3 6 0	29 6 0	180	
	No. 5	45 0 0	..	3 6 0	29 6 0	180	
	No. 6	45 0 0	..	3 6 0	29 6 0	180	
							1,080
Clarence Graving Dock	No. 1. Old Part	45 0 0	..	3 0 0	29 6 0	135	
	No. 1. New Part	45 0 0	..	0 6 0	18 6 0	97	
	No. 2. Old Part	45 0 0	..	3 0 0	29 6 0	138	
	No. 2. New Part	32 10 0	..	0 6 0	18 6 0	96	
							466
Canning's Graving Docks	No. 1	35 9 0	1 8 8	..	21 6 6	147	
	No. 2	35 9 6	..	0 0 7	23 4 0	160	
							307
Queen's Graving Docks	No. 1	42 0 0	..	1 8 4	29 4 6	146	
	No. 2. Bottom	42 0 0	..	1 8 7	29 4 0	145	
	No. 2. Top	70 1 0					
							291
Brunswick Graving Docks	No. 1	42 0 0	..	2 6 0	29 0 0	133	
	No. 2	42 0 0	..	2 6 0	29 0 0	133	
							266
Measured at the Bottom		..	..	..	..	..	2,410

Corporation Docks.

Manchester Dock, Width of Entrance at Outer Gates, 33 ft. 8 in.; Coping at Hollow Quoins above Sill, 28 ft. 0½ in.
Do do. Inner Gates, 32 ft. 10 in.; do. do. 24 ft. 4½ in.
River Craft Dock, do. do. 30 ft; do. do. 22 ft. 1½ in.

Duke of Bridgewater's Docks.

Duke's Dock, Width of Entrance at Outer Gates, 40 ft.; Coping at Hollow Quoins above Sill, 30 ft.
Do. do. Inner Gates, 28 ft. 10 in.

LEVELS OF THE TIDES OBSERVED AT LIVERPOOL.	Datum. Above.	Datum. Under.
	Ft. In.	Ft. In.
The Level of average High Watermark of Spring-tides in 1816, 1819, 1820, and 1821, is	18 3	..
Do. do. next do. or Equinoctial Spring-tide	20 0	..
Do. do. do do. do. do.	22 0	..
Do. an extraordinary do. do. April, 1821	23 0	..
Do. do. do. do. as marked on the Leasowes Lighthouse	25 0	..
Do. average High Watermark of Neap-tides, in 1816, 1819, 1820, and 1821, is	11 3	..
Do. highest do. do.	13 6 to 14	..
Do. lowest do. do.	9 3	..
Do. do. Low Watermark of Spring-tides, in 1816, 1819, 1820, and 1821, is	..	11 0
Do. average do. do.	..	8 9
Do. highest do. do.	..	6 6
Do. lowest do. Neap-tides, in 1816, 1819, 1820, and 1821, is	..	4 6
Do. average do. do.	..	1 9
Do. highest do. do.	1 0	..

REPLIES TO QUERIES. (No. 16.)

Replies to Queries. (No. 16.)

Western Packet Station Committee.

Western Packet Station Committee

Chamber of Commerce, Limerick, December 10, 1850.

My Lord,

Having received through our representative, Mr. John O'Brien, M.P., your Lordship's letter of the 6th instant, with the queries which accompanied it, we have now the honour to transmit the required information in reply to these queries, as also a map and tracing, showing the position and details of the ship dock now in progress of construction here.

This dock will afford a floatage accommodation of over 7¾ acres; and the tideway from the sea to the port, a distance of about 60 miles, is navigable for ships drawing 25 feet at ordinary spring tides, and 21 feet at ordinary neaps.

This Committee will be happy to afford any additional information your Commission may require in this matter with reference to the Shannon and Port of Limerick.

We have, &c.,

William Randall,
William Carroll, } *Honorary Secretaries.*

The Lord Hobart, Secretary,
Western Packet Station Commission, London.

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REPLIES TO QUERIES. (No. 16.)

Western Packet Station Committee.

1. Two tracings herewith forwarded—A. showing the site, &c., with reference to the city and river; and B. a detailed tracing of the dock now in course of construction. The main wall at the river front is completed, and the dock ready to be closed in, and a large quantity of heavy cut stone prepared for the inside work.

2. Area of floatage within dock 7½ acres, length about 800 feet, and breadth 410 feet.

3. 18 feet 6 inches, being the height of ordinary *neap* tides above intended bottom of dock.

4. The entrance, as at present designed, is 50 feet in width; but the work is still in such a position as that any alteration in the width or depth can be made before the spring of next year.

5. At the different periods of the tides, the depths will be as follow:—

	Feet.	Inches.
At ordinary springs	22	6
At extraordinary springs	25	0
At ordinary neaps	18	0

The river way approaching the harbour and docks affords several feet more depth than the above.

6. The wharfage around the dock will be 2,420 feet in length, and a varying breadth from 80 to 140 feet—one side being parallel, and joined to the western main road to the city and quays.

7. A tidal dock, with single gates.

8. The works are in active progress under the Government, and expectd to be completed in a couple of years.

Limerick Committee.

The Limerick Committee.

1. The Admiralty Chart of the Lower Shannon, by Capt. Wolfe, is the best document from which this information can be derived. It will be seen that there is, in the channel entering Foynes Harbour, a depth, at low water, of from 23 feet to 55 feet, and therefore affords ample depth of water for a steamer drawing 19½ feet to enter at all times of tide and in the night.

2. A new pier is now being completed, alongside which, a steamer of this draft can lay at all times of tide, both day and night.

	Feet.
At high-water springs . . .	36
At low-water springs . . .	20

The dimensions of the pier are as follows:—

	Feet.
Length	350
Width at pier-head . . .	40

No cranes have yet been erected; but any cranes required could be provided at very short notice.

At both high and low water, passengers may step from the vessel to the pier.

No scale of charges is yet fixed for this pier: but at Kilrush pier, lower down on the river, the charge for the river steamers is 2*s.* per day.

The charge on transatlantic steamers would, no doubt, be settled by special arrangement, and it is supposed would not exceed 1*d.* per ton on the registered tonnage for each voyage. Foynes pier, as well as the piers on the Lower Shannon, are under the management of the Board of Works, who regulate the scale of charges.

The pier is on the mainland, and, as will be seen by the chart, immediately abuts upon the mail road to Limerick.

There is no connexion between the island and the mainland.

3. The pier at Foynes is 24 English miles distance from the railway terminus at Limerick, by the post-road.

This road is one of the leading Government roads constructed in the south of Ireland by Mr. Griffith, present chairman of the Board of Works, and is one of the finest and most level roads in Ireland. It is always kept in perfect repair by the Government, and the distance may be travelled in two hours and a half.

The mail is at present conveyed between Limerick and Foynes, at about 5*l.* per mile per annum, and passengers at 2*s.* 6*d.* per head; and, no doubt, these rates are less than will be demanded when the railway is completed to Foynes.

4. The distance by river, from Foynes to Limerick Dock, is 21 English miles.

Steamers ply daily between these two places, and perform the distance with the tide in two hours, and against the tide in two hours and a half. They are old vessels of moderate power; but steamers of improved construction would easily perform the trip in one hour and a half, or even less.

By suitable arrangements the trip can be made at night and at all times, except in very dense fogs, which are very rare on the Shannon.

One day during the last year; and one or two days in the year may be considered a full average; but with improved steamers and active seamen the Committee see no reason to apprehend any interruption to the regular traffic from either of these causes.

5. A sharp, swift vessel, of moderate construction, drawing about 5 feet or 6 feet of water, and 120 horse-power, would be the most suitable for this service; and a vessel of this draft might easily lie alongside the new docks at Limerick at low water, the outer wharf of which is now completed, and provided with stone landing-steps, &c.

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She may lay alongside at all times of tide.

This landing place is distant about half a mile from the present temporary railway terminus, but this terminus is intended to be brought nearer to the town, and might easily be erected alongside the dock, in a most convenient position for the passenger trade of the city and transatlantic steamers, as well as for the goods traffic of the docks, besides being in the direction for the extension railway to Foynes.

The charge at Limerick, according to present rates, would be 8*s.* per trip, and would not be more at Foynes.

6. There is no existing accommodation of this nature; but any extent of site required can be easily obtained close to the pier from the proprietor, Lord Monteagle, who has contributed largely to the erection of the pier, and the immediate locality abounds with superior building materials.

REPLIES TO QUERIES. (No. 16.)

Limerick Committee.

Richard Griffiths, Esq.

Richard Griffiths, Esq.

1. There is ample water for a steamer drawing 19½ feet, to enter the harbour at all times. The Admiralty chart furnishes an excellent plan of the harbour, with soundings.

2. There is a pier, with 456 lineal feet of wharfage; the designed depth at low-water spring tides is 10 feet, but a timber jetty in extension of the pier-head would enable steamers drawing 19½ feet of water to go alongside at any time.

Depth at low water, 24 feet.
Depth at high water, 40 feet.

There will be a crane erected on the pier, capable of raising five tons. The schedule of tolls has not yet been fixed, but it will be very moderate. The pier, &c., are all on the mainland.

3. About 23 miles statute from the Dublin and Limerick Railway terminus; one of the best mail-coach roads in Ireland. Present time, 2½ hours.

4. I possess no data which will enable me to reply to this query.

There is a steamer plying daily up and down the Lower Shannon, and calling at Foynes; but it appears to me, that if Foynes were made a packet station, even though there were no railway from thence to Limerick, the road, and not the river, would prove the most certain and convenient line of communication.

5. I possess no data which will enable me to reply to this query.

6. I am unable to reply to this query.

REPLIES TO QUERIES. (No. 17.)

REPLIES TO QUERIES. (No. 17.)

Lieutenant O'Connell (Coast Guard Service).

Lieut. O'Connell.

1. Skelligs. Loop Head.

2. I have had no experience on this head.

3. I know of no pilot boats in the Shannon fit to keep to sea in a gale of wind but small boats, called Curragh's Board Vessels, in very severe weather, between Loop Head and Kilcredane light.

4. Yes. Vessels have Loop Head light and Kilcredane light until inside the Bar of Beale, then Tarbert light is seen distinctly, except in very thick weather; in fact, I consider but a very slight knowledge of the river necessary to reach Tarbert. During the time (nine years) that I was in charge of the coast-guard station at Tarbert, vessels of every description arrived at all hours in the worst weather and darkest night; nor can I bring to my recollection any accident having occurred in consequence.

5. Outside Kileradane I am aware of no safe anchorage; inside at Carrigaholt there is good anchorage; from thence to Kilrush (about 9 miles) there is a road, but no regular mode of conveyance.

6. From Loop Head to Tarbert, about 30 miles; Tarbert to Foynes, 9 miles; Foynes to Limerick, 27 miles.

7. Only in a small revenue tender, drawing about 8 feet water. She lay afloat within about 150 yards of the quay.

8. There is plenty of water for any steamer to go to Foynes, having a good pilot; but if blowing hard, and a very dark night, I should prefer Tarbert. There is good anchorage outside Foynes; but when blowing hard from the westward, there is a heavy roll of a sea. I have never been in the harbour.

9. I cannot take upon me to say what horse power would be requisite; but to go to Limerick at all times of tide, a steamer's draught of water should be very light, perhaps about 4 or 5 feet. The distance from the quay to the Dublin Railway terminus is about a mile.

Inspecting Commander Montague Pasco (Coast Guard Service).

Inspecting Commander M. Pasco.

1. Brandon by day; the Skelligs or Loop Head lights by night.

2. No.

3. Can get a pilot, in a gale of wind, before she would reach the intricate parts of the river.

4. Beale Bar is not marked, but keeping Kilcredane light about west will take you clear of it.

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Replies to Queries. (No. 17.)

5. Scattery or Tarbert roads, a mile from Kilrush or Tarbert; about 40 miles from Limerick; there is also a conveyance for the mails.

Inspecting Commander M. Pasco.

6.

Loop Head to Tarbert	30 miles.
Tarbert to Foynes	9 „
Foynes to Limerick	20 „

7. Never commanded any vessel of war, but I have often been up and down the river in revenue-cutters under my orders, at half-tide; drew 10 feet water; just touching in the pool of Limerick at low-water spring tides.

8. No; there is not. In Foynes harbour, within a cable's length of the pier, there is five fathoms.

9. A small steamer to convey the mails and passengers should not draw more than four feet water—about 60-horse power. She could not lay alongside the wharf at low water, but a small wooden jetty from the new dock wall, about 20 feet, she could lay alongside of, and be about a mile from the terminus.

Inspecting Commander Triphook.

Inspecting Commander Triphook (Coast Guard Service).

1. I would endeavour to make the Blasket Islands or Brandon Mountain by day, and Loop Head light by night.

2. I am of opinion the soundings would be a guide, as the water shoals gradually in the parallel of Kerry Head, from 30 to 12 fathoms close off that Head; whereas, in the parallel of Loop Head it runs from 55 to 32 fathoms close off the Head, and I have myself ran in this vessel as far up the Shannon as Kilendane, by the soundings, without seeing either Loop or Kerry Head. And in offering this opinion, I am supported by the statement of Lieut. Hare, a half-pay officer of the navy, who, when running in a merchant vessel from St. John's for the Shannon, made Kilendane Point, in thick weather, without seeing any other land, and he went, he told me, entirely by his soundings.

3. When blowing a heavy gale from the westward or N.W., it would be impossible to get a pilot off the mouth of the Shannon; but off Kilbaha, two miles inside, it is practicable to get a pilot at any time, as I have seen the pilot canoes board vessels in the hardest gales of wind, when it could not be attempted by any boats belonging to this service.

4. A steamer, drawing 19½ feet water, could run up to Tarbert in the night, the dangers being the Kilstiffeen Bank, Beale Bar, and Rinanna Shoal, which are not marked, but which would require to be buoyed.

5. A vessel could anchor with the greatest safety in Carrigaholt Bay, on the north side of the river, half a mile from the shore, and nine miles within the Heads, and which place was constantly resorted to by vessels bound up the river at night, prior to the erection of a light-house at Tarbert.

At Carrigaholt Bay you would be 51 miles from Limerick, without any public conveyance from that place to Kilrush, a distance of 15 miles, but from thence to Limerick, by a mail car, a distance of 36 miles.

6. From Loop Head to Tarbert is 24½ miles; from Tarbert to Foynes, 10 miles; and from Foynes to Limerick, 25½ miles.

7. I have gone up to Limerick over 150 times in this vessel, and have always two hours' flood on spring tides, drawing 9½ feet water; on spring tides she always grounded at Limerick, and served about 3 feet.

8. Nothing to prevent a steamer from passing Tarbert in the darkest night, and running up to Foynes Harbour, which can be entered at any time of tide in the darkest night. It is capable of containing 8 or 10 first-class steamers in its present state, when they would have from 6 to 8 fathoms water; muddy bottom. The harbour of Foynes might be made one of the most beautiful docks or basins in the world, and would then contain as many, if not more, vessels than the Southampton Docks, which could be done at less expense than in most places, as the materials are of the best and finest description, and all on the spot.

Vessels can stop in the anchorage outside the island in from 10 to 12 fathoms water.

The harbour of Foynes stands on the south side of the River Shannon, and is formed by the island of that name on the north, and the main land of the County of Limerick on the south; it is sheltered from all winds, has an eastern and western entrance; the latter may be entered at any time of tide; the former is a narrow and intricate passage, and a vessel drawing 10 or 12 feet of water would require a greater flood to go in or out of it.

I am of opinion that a steamer stationed at Tarbert or Foynes to convey the mails and passengers to Limerick should be about 100 horse power, and that she should not draw more than 3½ feet water.

The distance from where she could then land to the terminus of the railway, between Limerick and Dublin, would be about half a mile.

Mr. J. Aylen, Master Attendant, Sheerness Dockyard.

Mr. Jonathan Aylen, Master Attendant, Sheerness Dockyard.

1. Loop Head light. I beg leave to remark that a light is wanted on the Foze Rock, near the Blaskets; in no place in Ireland do I think one so necessary. It would not be difficult to erect, and would be of great service to vessels bound to or from the River Shannon.

2. Very few deep water soundings will be found on any of the charts between Slyne Head and the Blasket Islands, which makes it difficult for the navigation on this coast.

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Those that I made were very trifling compared with what should be. The river was well surveyed by the late Commander Wolfe, but the soundings that have been taken extend only a few miles seaward of Loop and Kerry Heads.

Replies to Queries. (No. 17.)

Mr. J. Aylen, Master Attendant, Sheerness Dockyard.

3. The pilot vessels are invariably to be found cruising off Loop Head, while the weather will permit. In bad weather pilot vessels will be found at anchor in Carrigaholt Roads. For vessels drawing 19½ feet water, I think a floating light would be required, moored on the edge of the Kinan Bank, near Scattery Island, to enable ships at night to run between it and Carrig Shoal (shoalest water on Kinan Shoal 15 feet, and on the Carrig Shoal 12 feet, low-water spring tides); in the channel between the two shoals, from 9 to 16 fathoms.

4. When inside of Loop Head, vessels can anchor in any part of the river up to Foynes Island, and may land their mails at Carrigaholt or Kilrush, on the Clare side, and Tarbert or Glinn, on the Kerry side of the river.

5. Loop Head to Tarbert, 22½ miles; Tarbert to Foynes, 9½; Foynes to Limerick, 22. A steamer drawing 19½ feet water can, at all times of tide, pass Tarbert, and run up to Foynes Island. A harbour light would be required on Foynes Point. After leaving Tarbert, by keeping in the middle of the river, you will avoid all danger. I never anchored in Foynes Harbour; the anchorage off the Island is very good.

6. During the period I commanded the "Alban," I went up to Limerick from Tarbert upwards of 30 times, loaded with meal, &c., on the Relief Service, and always took the first of the flood, as the "Alban" drew from 9 to 11 feet water. We always laid high and dry alongside of Limerick quay; and during the neap tides, at high water, I had not at one time water sufficient to leave the quay. There is room for one vessel of the "Alban's" draft to swing at low water in the Pool, about one-third of a mile from the quay.

7. Small steamers of from 30 to 40 horse-power, and drawing from three to four feet water, are the only steamers, in my opinion, that could work on the River Shannon at all times of the tides. They must also be very fast, or they would not stem the tide. Even with the above small draft of water, they could not go alongside the quay. A few thousand pounds expended in deepening the river, and removing the loose stones that now form several small banks, from five to six feet water could, with very little trouble, be carried up to Limerick Quay, at low water. The place selected for the new docks at Limerick, now in course of construction, was adopted by my suggestion at the time I commanded the "Alban" in 1846.

REPLIES TO QUERIES. (No. 18.)

Replies to Queries. (No. 18.)

Colonial Land and Emigration Board.

Colonial Land and Emigration Board.

1. The cost of passage to British North America, for cabin, intermediate, and steerage passengers in the spring of the past year, may be seen by referring to the statement at page 3 of the accompanying Colonization Circular. It is returned as about the same for the present year. The cost of passage to New York is now about 15*l.* 15*s.* to 20*l.* for cabin passengers, 4*l.* to 5*l.* for intermediate passengers, and 3*l.* 10*s.* to 4*l.* 10*s.* for steerage passengers, with the legal allowance of provisions. The mode of charging for children will be seen by the note at the foot of the printed table. Cabin passengers are rationed at the captain's table, according to the usual dietary in vessels of the class. Steerage passengers are entitled to the allowance presented in the 24th clause of the "Passengers' Act," 1849, viz., 10½ lbs. of breadstuffs, 5¼ gallons (at least) of water, and a small allowance of tea, sugar, and treacle, per adult, weekly.

2. Emigrant vessels are the vessels which bring the cotton, turpentine, flour, and other produce of the States to this country, and take back emigrants. They also export cargo.

3. The rates vary with the demand and supply; but it is not known whether they are affected by the seasons only.

4. The tonnage of emigrant vessels proceeding to North America varies from 100 tons to 1600 or more.

5. The average passage to New York in 1849 was, from London, 43¼ days; from Liverpool, about 35 days. To Quebec, from London, 52¾ days; from Liverpool 45¼ days. Emigrant vessels do not go to Halifax.

(Signed) J. Walcott, *Secretary.*

REPLIES TO QUERIES. (No. 19.)

Replies to Queries. (No. 19.)

Post Office.

Post Office.

1. Falmouth was the packet station from which, formerly, most of the packet mails were despatched. In June, 1840, when a mail communication with America, by steam, was first established, the American mails were removed to Liverpool; but the East and West India, the Mediterranean, the Peninsular, and the Brazil mails, continued to be made up at Falmouth until May, 1843, when the Lords Commissioners of the Treasury ordered the Postmaster-General to take the necessary steps for the despatch of the East and West India, the Mediterranean, and the Peninsular mails, from Southampton, leaving only the Brazil mails to be made up at Falmouth.

By an arrangement which came into operation at the commencement of this year, the Brazil mails are now despatched from Southampton.

Any regulations by which the vessels employed under contract in these several services, sailed in the first instance with cargo and passengers from Southampton, during the

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Replies to Queries. (No. 19.)

Post Office.

period that the mails were embarked at Falmouth, were of a private character, in no way recognised by Her Majesty's Government.

2. If an Irish packet station were established, the letters arriving there from America could be sorted at the Irish port, provided the employment of a sufficient force and the requisite accommodation were sanctioned. If the mails were not opened at the port, Dublin is the only town in Ireland where the duty could be promptly and efficiently performed at a moderate expense.

3. So far as the transmission by land is concerned, this would depend upon the port in Ireland which might be selected. To some of the ports, the existing means of conveyance might probably suffice for the carriage of the American, in addition to the local letters; but to many of the ports, improved means of conveyance, at an additional cost, would be indispensable. To Cork, Galway, or Limerick, the increased expense would be trifling, if the railways were used. If Berehaven, Crookhaven, or Valentia were selected, the expense might be considerable.

It is not clearly understood, however, whether the question refers only to the additional expense of land conveyance, or to the comparison between the increased expense of land conveyance and an assumed diminution of the cost of sea conveyance.

Replies to Queries. (No. 20.)

Lloyd's.

REPLIES TO QUERIES. (No. 20.)

My Lord, *Lloyd's, January* 22, 1851.

I have the honour to transmit, for the information of the Transatlantic Packet Station Commissioners, the accompanying replies from the Committee for managing the affairs of Lloyd's, to the queries submitted to them in a letter from Capt. Ellerby, of the 21st inst.

I have, &c.,

To Lord Hobart, J. W. N. Halsten, *Secretary.*
&c. &c.

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1. The rate is about the same, reference being made to the quality of the ship and the nature of the goods carried.

2. In summer about three-eighths to one-half per cent., and in winter about double.

3. In summer about three-eighths to one-half per cent., and in winter about double or treble these rates, according to the circumstances of the moment, as to weather, &c.

5. This has been already answered in the following reply to the same query from Lord Hobart, under date of the 20th December, viz.:—

"That other circumstances in connexion with the risks in question being generally the same, there would be no difference of premium as regards the respective voyages."

Replies to Queries (No. 21.)

Cunard and Co.

REPLIES TO QUERIES. (No. 21.)

1. In the summer season they generally take a course north of Sable Island, whether bound to Halifax or New York; but not always when bound to New York. It would depend much on the wind and state of the weather, after taking a departure from Cape Race. In the winter and spring, when the weather is very cold, or when ice may be expected, they take the south side of the island. I cannot say precisely how often this may occur.

2. I think the average consumption of coal may be estimated at three, to three and a half tons per hour, during the voyage

3. About the same rate as during the other portion of the voyage. On the outward passage, perhaps about 12 knots; on the homeward, perhaps about 13 knots, if the weather should be clear and fine.

(Signed) Charles MacIver.

Replies to Queries. (No. 22.)

REPLIES TO QUERIES. (No. 22.)

Transatlantic Packet Station Committee, Board of Trade,
My Lord, *Coast Guard Office, April* 16, 1851.

Referring to my letter of the 28th ultimo, I have the honour to transmit you, for the information of the Transatlantic Packet Station Commissioners, the replies of Mr. Barrett, R.N., formerly of the North Isle of Arran Station, to the queries forwarded by you, as well as replies to the same set of queries from the chief boatman who had been in charge of the station since Mr. Barrett left.

I have, &c.,

The Lord Hobart, A. Ellice,
&c. &c. *Comptroller-General.*

Mr. Barrett.

Mr. Barrett.

1. I commanded the coast-guard station at the North Isle of Arran for one year and three months.

2. I kept no meteorological journal, but the phenomena chiefly observable are the

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Mr. Barrett.

frequent appearance of the "aurora borealis" in a very bright form, and very low in the atmosphere.

3. The heaviest sea is caused by a W.S.W. wind, throwing in the swell of the western ocean.

4. With that wind the sea rises very quickly, almost as quick as the wind, and breaks heavily on the Arran Islands.

5. During the two winters I was on the island I have known fresh gales to blow continuously for 14 days.

6. When there is a gale blowing right in, the weather is generally sufficiently clear for any vessel to make the land without risk, as the land of the Arran Islands is very bold.

7. I consider it a risk for any vessel to run for the land without having had observations for some days in a dark winter's night in a heavy gale, but not more for the entrance to the Bay of Galway than any other place, and not so much risk as for some places, especially if there was a good light placed on the north island of a small group called the "Branocks." I do not consider the present light of any (or but little) use; I have frequently seen it covered with mist when the lower parts of the land have been quite clear.

8. I have never seen the sea break right across from the North Island of Arran to the main.

9. I have never seen the sea break right across the other passages between the Arran Islands.

Mr. Henderson, Chief Boatman.

Mr. Henderson.

1. Eleven months.
2. I have not kept a meteorological journal.
3. From W. to W.S.W.
4. The sea is soon up with those winds, and breaks violently on the Arran Islands.
5. From 8 to 30 hours.
6. In my opinion, there would not be the slightest difficulty.
7. I consider a steamer might run in with safety under such circumstances, providing the weather was sufficiently clear to make the lights.
8. I have not seen the sea breaking more than one-third of the distance from the North Island to the main.
9. I can only answer for Gregory Sound. I have frequently seen a heavy sea rolling in, but never observed it breaking across to Innishmaan Island.

Dated at the Coast Guard Station, North Isle of Arran, this 4th day of April, 1851.

APPENDIX II.

MINUTES OF EVIDENCE TAKEN BY THE COMMISSIONERS.

FRIDAY, 13th December, 1850.

The Earl GRANVILLE in the Chair.

The Reverend Peter Daly, and *Edmund O'Flaherty, Esq.*, as a Deputation from the town of Galway, were called in.

Rev. Peter Daly, and E. O'Flaherty, Esq.

December 13, 1850.

1. You represent specially the interests of the town of Galway?—(*Mr. Daly.*) We appear as a deputation from the Harbour Commissioners of the town of Galway, to lay before this Commission our peculiar claims for a packet station, but we are also willing to co-operate with the rest of the country in requesting a packet station generally in Ireland, but we will speak for our own special purpose first.

2. Will you state the reasons why you think it desirable that there should be a packet station in Ireland?—Our reasons for wishing for a packet station in Ireland, are the vast impulse it would give to the trade of Ireland especially, as we are prepared to make out, and the general benefit it would afford to the trade of the United Kingdom.

3. As some written statements have been sent in by you, probably you will be good enough to confine yourselves to anything you have to state in addition to those.—An important part of our business is to lay before you the documents that will support our particular claim at Galway. First, we beg as to the general question to hand you a report of a great Convention which was held in Portland, in last summer, which was sent officially to me in connexion with this subject. With reference to the general object we paid a visit as a deputation to the north of Ireland, and we found the whole north of Ireland most

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Rev. Peter Daly, and *E. O'Flaherty, Esq.*

December 13, 1850.

anxious for a packet station on the west coast of Ireland; and they generally name Galway as the port. They are most anxious for a packet station, because of the immense disadvantages that now obstruct their trade in the present mode of regulating matters, and which disadvantages will, I think, be made clear to you by a letter from the Messrs. Kennedy, a very great manufacturing house in Belfast [*producing the same*]. In confirmation of their views, and of the general disposition of the north of Ireland on the subject, we beg to hand in a document from the Corporation of Belfast [*producing the same*]. We beg also to hand in a declaration from the mercantile interests of Belfast [*producing the same*]. This is signed by the principal leading houses. Every one else was ready to sign it, but there was no time, as we were only a day or two in Belfast. With regard to our special object, as to Galway, this is a particular declaration [*producing the same*], made by the master and mate of a schooner, coming in the Bay of Galway in the midst of the last great storm, when the unfortunate occurrence took place in Kilkee, and 90 lives were lost in a vessel there, and at the same moment this vessel, having been very much injured outside, ran into our bay, and rode out the storm in perfect safety, in the midst of the gale, while the other unfortunate creatures were going down.

The documents were delivered in.

4. Will you be good enough to state what you believe would be required in Galway, to complete the preparations for the packet station there?—At this moment we have dockage enough for a very considerable mercantile port. That dockage has cost about 40,000*l.* within the last 15 or 16 years. We propose, even without any reference to a packet station, for the promotion of the trade generally, to construct a new pier, to join Mutton Island. The whole cost of that would be between 40,000*l.* and 50,000*l.*

5. Have you the particulars of the estimate?—I had a conversation with Mr. Dargens, and with the engineer, who made a rough sketch of the cost, and I will procure for the Commissioners Mr. Dargen's absolute offer, with the dimensions, and the description of the work proposed. The foundations of a pier exist there.

6. Where will the stone be got from?—Along the coast. They have got the stone just on the very spot. It is on Salt Hill. The distance it would have to be carried could not exceed a mile and a half. Mr. Dargen has just constructed a bridge out of the very openings of the railway.

7. Is the dock applicable to these steamers?—It is a very extensive dock, containing five Irish acres, and it has 17 feet of water constantly over the sill of the gate at all tides.

8. Have any funds been subscribed, or promised towards the completion of the pier?—We only proposed it last April to the Harbour Commissioners, and I think we should have no difficulty in raising 40,000*l.* or 50,000*l.* upon the security of the docks themselves.

(*Mr. O'Flaherty.*) If our views are considered favourably, and the Commissioners decide in favour of a packet station at Galway, the Railway Company are quite prepared to build a breakwater.

(*Mr. Daly.*) But independently of that, our Harbour Commissioners could raise that sum immediately.

9. Is the dock paying off its debt?—Yes; it owes now only about 19,000*l.* to the Board of Works. There was about 40,000*l.* laid out. I must say that more economical management will now be applied to it, and there will be proper economy and care in collecting the dues, and all that sort of thing. There was some little mismanagement, but in the present state of things the debt ought to be very nearly paid off by this time.

10. Have you held any official situation in connexion with it?—I was generally chairman of the board. I held no official situation

(*Mr. O'Flaherty.*) The greatest anxiety in sending us over was to know exactly how the Commissioners would conduct this inquiry. We were afraid that, being at a distance, our interests might not properly be put before you, and we were also very anxious all to unite together. Mr. Monsell, who came over with me and other parties, represent competing ports; but we are anxious all to unite in having first the abstract question settled, as between England and the west of Ireland, as to whether you consider the advantages sufficient to justify the alteration of the packet station from Liverpool to the west of Ireland. We are very anxious to have that question settled before we go into the question of the competing ports.

(*Chairman.*) It is clear that the best course would be first to entertain the question whether it is desirable to have a packet station in Ireland at all, and then, secondly, to consider the question which port is best; because, if the first question is decided in the negative, it would not be necessary to go into the merits of the several ports; but the first question is so mixed up with the merits of each port, that it is very difficult to keep the two questions perfectly separate. Of course we should be happy to receive a deputation, representing all the different ports, with a view of giving us any information as to the first part of the question.

(*Mr. O'Flaherty.*) Mr. Monsell, Mr. Herbert, and several others, will be glad to wait upon you with us, whenever it should be convenient to you to receive us, upon the general question. We think we have a fair claim, as representing the whole of Ireland, for a packet station, in consequence of the great saving of time which will be effected in the passage, even with the packets as they at present run; and the still greater saving which would be effected by the circumstance, that the shorter transit from Galway to Halifax would admit of vessels of a different construction being employed, which would go much faster. Mr. Penn, and Mr. Napier, have given strong opinions upon that subject. I do not know whether the Commissioners have seen them. Mr. Penn says that you could employ a vessel running considerably more than 17 miles an hour.

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11. Can you put in any statements of that kind by Mr. Penn?—I can get them for the Commissioners.

12. Does he go into the question of the capacity of those vesssels, and the expense of working them?—I will have produced to the Commissioners, in the course of a week or ten days, the model of a vessel, and a statement of the expense of construction, the pace at which she can go, and every single feature connected with it; and supported by Mr. Penn and Mr. Napier's opinions. From which it will appear that a vessel can be constructed to go from Galway to Halifax such as would he infinitely superior in speed to the vessels that generally go from Liverpool to Halifax.

(*Mr. Daly.*) The peculiar construction that would he adapted to the Galway passage is owing to the shortness of the passage.

13. Is that on account of having to carry so much less coal?—(*Mr. O'Flaherty.*) Less displacement admitting of much greater power. I do not think they contemplate that those vessels would carry any large amount of goods

(*Mr. Daly.*) A vessel leaving Galway having hut five days' passage to make, will require only half the cargo of coals that she would have leaving Liverpool. That is the first great item of saving.

(*Mr. O'Flaherty.*) It is a great advantage to us that coals are becoming daily considerably cheaper in Galway. A great many mines have been opened in that county, and, in fact, every day there are new mines opening. A great deal of trade has now sprung up between Wales and Galway in sending over minerals, and the price of coals has come down one-third.

14. Can you state what is the price of coals put on hoard at Galway?—The best coals are put on board at Galway at 16*s.* and 16*s.* 6*d.* The Newcastle coal and the Cardigan coal are the coals we use most generally.

15. Do you mean that the coals are put on board at 16*s.* a ton?—Yes; I mean that they would be put on hoard at 16*s* a ton; and if there were more trade and more intercourse, so that more freights would be insured to vessels coming to Galway than at present, it would be considorahly cheaper.

16. Are they brought in regular colliers?—Not at all; the coals are a return cargo.

17. What mines have you that export from Galway?—(*Mr. Daly.*) There are three mines which are producing beyond expectation in the neighbourhood of Oughterard. There is a large copper-mine there, which is about to be worked by Messrs. Taylor, great mineral agents; and lead mines are opened there also.

18. How do the marble works get on?—Very well. There is the Ballynahinch and the Galway marhle.

(*Mr. O'Flaherty.*) I do not know whether the Commissioners have seen the letter of Messrs. Kennedy that we have handed in. There is a circumstance which Lord Clarendon wished us particularly to impress upon the Commissioners. The mercantile interests in Belfast feel much more strongly what they consider the unfairness of the present arrangement than we do even in Galway, and they put this fact forward. They state that a short time since the business of the American trade was entirely carried on through letters, hut at present that is not the case. It is entirely done through agents now. Those agents come to Liverpool, and then they go to Manchester and make their purchases in Manchester. They have the advantage of communicating their ideas respecting the trade to the people in Manchester, and then, having done that, they cross over to Havre and go to France. And the consequence is, that the Belfast people, who are naturally ohliged to carry on their trade in competition with Manchester, do not enjoy the advantage of communicating with their customers. But if they had a packet station in Ireland, occasionally those people coming to Galway hefore going to England would go up to Belfast and give them the advantage of communicating with them and making their sales directly to them. The Belfast people now labour under considerahlo disadvantage in consequence of the present arrangements. Lord Clarendon said also, that he thought it would have the effect of inducing many visitors to come to Ireland. Mr. Howes, who is Secretary for Nova Scotia, and who came over here on the part of that province for the purpose of ohtaining the sanction of the Government towards carrying on a great project developed in his pamphlet, says, "I came over to see this country a short time since to pay a visit to England, and if I had been landed at any port in the west of Ireland I would have gone through Ireland and seen it. But landing in England, they do not come afterwards to Ireland, but they go to France and to the rest of the Continent." Lord Clarendon thought that a very important point, as well as the matter affecting tho mercantile interests.

(*Mr. Daly.*) I would heg leave to state that we think it is of great importance that there should be a *vivâ voce* examination at Galway itself, and we do not think that the examination can be brought to a satisfactory conclusion without.

19. Will you state what sort of evidence, and what sort of information, those witnesses could give orally which they could not give in writing?—If you first decided the question that a packet station is desirable in Ireland, then we would bring the evidence of Captain O'Malley to bear specially upon the port of Galway in comparison with the other ports in Ireland. His evidence would be most valuable with reference to the port of Galway, because he can prove to you, from the experience of the last 20 or 30 years, the advantages of the port of Galway. He has been always at sea; he is connected with Her Majesty's Service, and connected with the harhour of Galway; he has vast experience in that way. His evidence would go to show that no port in the west or south of Ireland would be better fitted for such a purpose, or more free from all disadvantages; first, with regard to

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Rev Peter Daly, and E O'Flaherty, Esq.
December 13, 1850.

the depth of water; and, secondly, with regard to the prevailing winds. Galway Bay has great advantages of free ingress and free egress, which are not obtainable in other ports.

20. Could not the information which you desire to be given to us be obtained by written questions?—We would suggest various questions which we think material.

(*Mr. O'Flaherty.*) One difficulty under which we labour is, that we have no opportunity of rebutting information that might be given to the Commission. Sir Thomas Redington told me of an officer who had had queries sent to him, and who had given an opinion upon the different bays in Ireland; and that he himself, being a Galway man, and having been upon a Commission himself upon the very subject, put to this officer several questions about the bay, and that he found he did not know anything about it. We would submit that we should have an opportunity of seeing the opinions given.

(*Mr. Daly.*) We must express to you the general feeling that exists that this Commission was issued with the *bonâ fide* intention of establishing a packet station in Ireland. With respect to the peculiar merits of the port of Galway, the Report of Captain White puts that matter beyond all doubt. Captain White commanded for 18 or 20 years, and his evidence states that there was not a single fog which would impede a vessel in coming into Galway. He was commander of the Coast Guard all round the coast; he was almost every day in the year at sea; and he was exceedingly active all round the coast of Galway. He was continually watching every occurrence, and he kept a log.

(*Mr. O'Flaherty.*) I have frequently spoken to Captain Kendall about the evidence of Captain White, and he says that he quite agrees in it; that he has seen fogs there, but not of any extent at all.

(*Mr. Daly.*) There is another consideration which I would beg to press particularly upon the Commissioners, with regard to the Bay of Galway, which is, that the bed outside the islands affords peculiar soundings all along, for 80 or 90 miles, in a direct course with the two great headlands that form the mouth of the bay; so that in the midst of the densest weather that could possibly arise a vessel can be assured that she is going straight for Galway from the peculiar sand that is taken up with the soundings. There are four entrances to the port; she can either enter north or south, or in the centre.

21. Does that bank affect Galway only?—Only Galway; it runs out direct to the west in a line with the two great headlands that form the entrance to the Bay of Galway; we look upon that as being a very peculiar advantage to our bay. Supposing dense weather, so that a vessel would be out of her reckoning, it would be a great advantage to a vessel in a storm to be able to know by the lead that she was going direct for Galway.

After some discussion with reference to the most convenient time for seeing a general deputation from all the ports of Ireland, it was agreed that the deputation should attend the Commission on Friday, the 20th instant, at one o'clock.

[Adjourned to Friday at one o'clock.]

FRIDAY, 20th December, 1850.

The Honourable WILLAM COWPER, M.P., in the Chair.

Deputation.
December 20, 1850.

The following noblemen and gentlemen appeared as a deputation on the subject of the establishment of a Western Transatlantic Packet Station:—

The Right Hon. the Lord Monteagle.
Lord John Chichester, M.P.
Lord Edward Chichester.
Fitzstephen Ffrench, Esq., M.P.
John Greene, Esq., M.P.
Torrens M'Cullagh, Esq., M.P.
General Sir De Lacy Evans, M.P.
John Sadleir, Esq., M.P.
The Hon. John Howe.
Dominick Daly, Esq.
William Gregory, Esq.
Rev. Peter Daly, P.P.
Edmund O'Flaherty, Esq.
Andrew Blake, Esq.
William Kenny, Esq.
Thomas Rainy, Esq.

22. (*Chairman.*) The first thing I have to do is to apologize on the part of Lord Granville. When this day was fixed for seeing the deputation he was not aware that he should be detained at Windsor Castle, or else he would have fixed another day; but we shall report to him what passes to day.

(*Lord Monteagle.*) We are of course sorry not to have the pleasure of meeting Lord Granville; but at the same time we have the satisfaction of meeting here the other members of the Board, amongst whom, we are aware, resides a great deal of local knowledge affecting our country, as well as a perfect power of discriminating the whole case in its general relations. Practically speaking, I can do little but just open the case to you, for I have been only in communication with the members of the deputation a few hours; and I should gladly have left the matter entirely in their hands, except that had I withdrawn from association and co-operation on this occasion, it might have looked like indifference to the great question upon which we now come to see the members of the Commission; and it might have led to an inference which would be directly the reverse of the fact. It might have been considered, if any person, feeling interested in the question, had withheld his co-operation just now, that the deputation were coming for the purpose of advocating any special local interest of any description whatever. That is not our object. Of course the ultimate solution of this question must depend upon the general interests as represented by special cases. But, in the first instance, that which interests us and brings us here together to-day for the purpose of seeing the Commissioners, is in order to bring before you the general case of the whole of Ireland

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Deputation.

December 20, 1850.

as represented in its western and south-western shores; and if there be any other shores we are far from excluding them, for we desire to include the whole case of Ireland.

Now we are very anxious that, if possible, the real question which is at issue, whether it is or is not for the interests of the public to contemplate the establishment of a transatlantic communication from Ireland should be determined and disposed of, because we think with reference to your convenience (if we may take the liberty of saying so), as well as our own and the public convenience, but especially our own, unless there be some just and reasonable ground of feeling confident upon the subject, it is only waste of time and waste of labour to go into special cases. We are, I think, authorized to conclude from the appointment of the Commission, not, indeed, that it is determined that a case exists on behalf of Ireland; but that, by the appointment of the Commission, it is determined that there is a case made out which is a fitting subject for inquiry by you, in the first instance, and ultimately for determination by Parliament and by the Government. We are extremely anxious that that general question should be, as far as possible, decided in the first instance, and then the special cases might be afterwards considered. And I believe I speak the opinion of every gentleman here, that whatever we may feel with respect to any local interests, which we all may have, one as connected with one part of Ireland, and another as connected with another part, we regard those local interests as nothing in comparison with the general question, whether transatlantic communication from Ireland is to be established or not. Upon that subject, undoubtedly, we feel a reasonable confidence, for it has already been much agitated and discussed; and we have upon it high official and parliamentary authorities in documents which are regularly before you. And it is important to observe, that whatever was said upon the subject before, applies very much more strongly now than at any former time, that the establishment of our railway communications, which are now brought to maturity, since any previous official consideration was given to this question, not only gives us a new claim by showing how much has been done towards this special object by Ireland itself, assisted undoubtedly (which we feel extremely grateful for) by the power of the State; but we feel also that the question is placed in an entirely new position by the rapidity of the land journey which has now been attained. As, for instance, take the most extreme point on the map, Valentia, how different was the case when the Duke of Wellington, and other high military authorities, were consulted with respect to the transmission of troops when they had no railway in Ireland whatever, as compared with the present time when we have a railway, which approximates even to that most extreme point by bringing it to Mallow. Or, to take another instance, in the case of Galway, at the time this question was discussed before, they never dreamt of a railway. I believe the most visionary of my western friends at that period, 20 years ago, never dreamt of the establishment of a railway to Galway. But now we have a railway to Galway, as connected with the whole railway system of Ireland. I may observe that upon this subject so deeply and generally are Irish interests concerned, that even from the north there has been sympathy between Belfast and Galway, which shows how rapid a conductor of sympathy a railway is, as well as of traffic; and the whole of Ireland is eagerly and anxiously looking forward to the settlement of this question.

I may say just one word more, that we have no apprehension upon this question, that right will not be done at last. We are quite certain of that. We know that what is right always, sooner or later, makes its own way by its own weight. But we are extremely anxious, not only that that which is right should be done, but that it should be done with the least possible delay, and in the most satisfactory and advantageous manner. We know that from the other side of the Atlantic there would be every disposition, at one time or another, to increase the rapidity of its communication with Europe, and probably to increase the rapidity of its communications specially with the British Empire. We know that the active spirits on the other side of the Atlantic will not be indisposed, upon a fitting and just occasion, if an opening is left to them, to seize upon any possible advantage of that description. We know that, by our experience of what has occurred upon the subject with reference to the question of a great Atlantic port for communication with Europe. We know that, for upwards of 20 years, the highest military authorities in this country have been discussing that question as between Quebec and Halifax, but without result; and now the prospect of deciding it in the way we might have wished, is taken out of our hands. An Atlantic port will be appointed for British North America, and for the United States; but there is a great chance of Portland being made the great place of communication, instead of Halifax. We feel sure that, one way or another, this great question of transatlantic communication will be settled; but we are extremely anxious that it should be taken up under a sense of duty by the Imperial Government, rather than it should be left to speculation or to chance. We are, therefore, most eager to lay before you all the information we can. Of course we know that it is your object to inquire and to take evidence; and then to report to the Government and to Parliament; but it would be a matter of the deepest anxiety to us that the general question should be disposed of, and brought within a practical shape at as early a period as possible, because all those minute matters which would have to be gone into with reference to special cases, and which would occupy a great deal of time, would be of no importance whatever, if you finally negatived the general principle. It is, therefore, a matter of great anxiety to us, that the general question should, as far as possible, be disposed of at as early a period as can be. We shall then be ready, in our respective capacities, as representing particular localities, to lay before you everything that we conceive can recommend the particular ports of Ireland with which we are connected; and which we will give you either in a written shape, or by tendering to you any such supplementary evidence to written documents, which you may feel to be necessary and fitting. And it is a satisfaction to me to be able to say, that I do not think that such an inquiry is likely so lead to great length, because you have already a great deal upon the subject in the Admiralty Reports; and, above all, in what

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Deputation.

December 20, 1850.

I reckon to be the foundation of all Irish commercial statistics, in my poor friend Drummond's Railway Reports, and in the Report to which the name of his coadjutor as well as his own is appended. You have in those Reports almost all that we should want in the way of statistical evidence. We can, then, as supplemental to that, show you the progress of the railways; and very little more than that is necessary. Our first prayer to you would be, to dispose, as far as you can consistently with your duty, the general question; and then we should request from you that we may not be allowed to tender to you evidence which can only overload your minutes, and lead to one of the greatest practical calamities of our time, accumulation of blue books. But if you should be able to tell us that upon such and such points there is a deficiency of evidence, we would then lay evidence before you upon certain points; we should endeavour to get in the respective localities that species of evidence upon which you will exercise your own discretion afterwards. But if we were left, each, as it were, to make out a case for a particular port or a particular locality, I am afraid, in the first place, that you would have a great deal of repetition and a great deal of delay; and also that you would have insufficient evidence perhaps tendered to you; you would have evidence tendered upon points upon which you wanted no information at all, and evidence withheld upon points upon which you wished for information. Therefore I have only to conclude by repeating that, which I believe every gentleman present will confirm, that we do not come here with the selfish object of advocating any one particular place: we say nothing now for Valentia, for the Shannon, for Galway, for Blacksod Bay; but we say everything that we can say for Ireland. And when the general question is decided, we shall be ready to give you the best evidence in our power as to special places, to enable you to form a judgment as to their respective merits.

23. (*Chairman.*) I am sure every member of the Commission must be very glad to have heard what you, my Lord, have stated to us, for the views which you have now so ably stated to us are those which had been already adopted by the Commission. We have thought that the subject naturally divides itself into these two branches,—one being a comparison of the ports generally on the west coast of Ireland, with Liverpool and Holyhead as ports of embarkation for the Atlantic, with reference to the public convenience and the general interests of the empire: the other point would be to examine very minutely the respective advantages of particular harbours. And certainly we have thought that we should proceed more methodically, and arrive at a more satisfactory conclusion, if we decided first upon the preliminary question, whether the transatlantic station ought or ought not to be removed to the west? And if we decided that question in the affirmative, that there ought to be a port more to the west than Liverpool, we should then be prepared, secondly, to enter into the minutiæ of the respective advantages of the different ports. We are very anxious to get all the information upon the subject that we possibly can. We began by sending out inquiries, in order to get written statements from those parties who we thought could give information such as we wanted, by documentary evidence. And, as we now have a deputation representing generally all the ports, and prepared to speak to us upon the general question, we shall be very glad to hear any statements which the gentlemen present can make upon the general question. We are quite agreed with my noble friend who has just spoken, that it would be very hard upon such matters, to go into the minute details which must be gone into, in comparing the respective merits of different harbours, if after all, the advantage of a western port should be found to be so slight that it was not desirable to make any change at all. What I would now ask is, what evidence, or what information upon the general subject, this deputation would be prepared to tender to us?

(*Rev. P. Daly.*) I would beg first to refer to a considerable deal of evidence which our deputation laid before this Commission upon the last occasion, with reference to the general question abstractedly, of what had a particular bearing upon the port for which we were specially interested. We laid before the Commission some evidence showing the bearing of the question upon the mercantile interest of Ireland, and especially regarding Belfast. The whole of the north of Ireland, which is a most important part of the country with regard to mercantile transactions, are now so alive to the importance of this matter, that they declare, in several communications which I have received during the last week, and which I will lay before the Commission upon a fitting occasion, that their trade cannot possibly be carried on prosperously, in competition with other parts, unless this project is carried out. The mercantile interests of Belfast tell us, that they are under vast disadvantages from the want of direct communication with America, independently of the question of quick communication. The trade they are chiefly engaged in is in muslins and linens, and now their money transactions come to Liverpool, and are transmitted from Liverpool back to them. All that process has to be gone through before they can receive the produce of their sales. They lose, in general, four days' interest upon their transactions, and thereby they are put out of the market altogether, in competition with others. Yet, notwithstanding these disadvantages, the trade has so immensely improved the last four or five years, that they have already very nearly beaten out the French, Belgian, and German markets, in regard to linens and muslins; and they only want the opportunity of a direct transmission of their goods to America, and direct and speedy communication with America; and, above all, an opportunity of having Americans come to Belfast to see their operations in Ireland, and to have personal communication with them, which is an advantage of which they are almost entirely deprived now. They only want that, in order to be able absolutely to bring all the trade which is now carried on by importation from foreign countries, into Ireland. That is the evidence I should wish to lay before you. We shall have plenty of evidence from the mercantile community in Belfast, which I consider the most important mercantile community in Ireland. We have in evidence before you, that the members of the largest houses in Belfast have never seen their greatest customers in America; they have never had personal intercourse with them. The Americans

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come round to Liverpool, and do their business in Liverpool, and go on to Manchester. And after having done their business there, they will then proceed to France, and Switzerland, and Germany, and make their purchases there. After that, they are in a hurry to get home, and they send their orders to Belfast, but never go there themselves to see the parties. So that the Belfast manufacturers have no opportunity of knowing their special views and tastes, or of receiving any kind of intimation with respect to their views or wishes personally from them. In consequence of this, Belfast, I think, lies under tremendous disadvantages, and an enormous quantity of trade which ought to exist in Ireland is carried to the Continent; and instead of the Irish people being employed in the manufacture of those things, they are bought in Belgium, in Switzerland, in France, and in Germany. Besides, if this project were carried out, people who land in a western port of Ireland would be induced from curiosity to see the country, and to lay out a great deal of money probably in so doing; and then proceed to Dublin, and do their business in Dublin personally with the merchants there, and then go up to Belfast by the railway, do their business in Belfast, and then proceed to Liverpool. They would do twice as much business in Ireland as they now do. When they had seen the opportunities there were of having their business carried out properly in Ireland, the probability is, that they would have no business to do with France, Belgium, and Germany.

Then another benefit, which I anticipate also, is that which would result from personal intercourse with the Americans through Ireland. It would be of incalculable value to bring the Americans into personal intercourse with the Irish, giving them thereby intelligence upon mercantile affairs, which they cannot possibly have now,—giving an impetus and stimulus to the trade which does not exist now. And all this good might be effected for Ireland without any injury; but on the contrary, with the greatest possible advantage to the trade of the empire at large, for the trade of the empire at large derives no benefit from those disadvantages that Ireland lies under.

Then the other great point of view in which this matter may be regarded is, with respect to the acceleration of intelligence. We propose that the intelligence which is now transmitted in ten or twelve days from America, shall be transmitted from America to London in less than seven days by this project. We have the opinions of eminent men to lay before you (some of which have already come before you), that by the establishment of a packet station on the western coast of Ireland, they will be enabled to build such vessels as are not applicable to the longer passage. Then, as we shall be able to show by the evidence of eminent men, that this project will produce immense advantages to Ireland generally, by the restoration of its trade and commerce, and without any interference with the trade and commerce of any other part of the United Kingdom; and that it will produce, also, an acceleration of intelligence which cannot possibly be effected through any other channel. We think we have made out our case, and we are fully prepared to enter into these particulars.

24. We think we have as much information as will probably be required, regarding the passage communication; but what Mr. Daly has mentioned now, with regard to the interests of Belfast, is something new to us, and it would be very desirable for us to have that down in writing from the gentlemen of Belfast, showing what they consider their special interest, and the way in which they would be benefited by this means of communication If you choose to dilate further upon that, and to go more into particulars upon that subject, I think it would be of importance.

(*Mr. O'Flaherty.*) When we last waited upon you I gave you a letter from Messrs. Kennedy of Belfast.

25. That was stating that it would be a great advantage to Belfast if the communication was in 7 days instead of 12.

(*Rev. P. Daly.*) I beg to offer you several documents. This is an opinion [*producing the same*] from one of the most important merchants of Belfast, Joseph McGill—a very large house.

26. Belfast is decidedly the most important commercial place in Ireland, and perhaps it will be better to collect all the papers relating to Belfast together.

(*Mr. F. Ffrench.*) I do not know whether it has been stated, but I think it is of great importance to consider the enormous destruction of British property which takes place in the ships passing through the Channel every year, and the great advantage which the nation at large would derive from having a point of departure upon the western coast of Ireland.

27. You mean by avoiding the Channel navigation. We are quite aware of the importance of that.

(*Rev. P. Daly.*) I can give you a list of a vast number of vessels lost in the last few years coasting round.

28. That is so notorious that it is hardly necessary.

29. Is that a list of steamers?

(*Rev. P. Daly.*) Not particularly a list of steamers.

30. That would be more to our purpose.

(*Mr. F. Ffrench.*) It would only be a little more to the point as to steamers, because if the point of departure were on the western coast of Ireland, it does not follow that it should be exclusively confined to steamers; the chance is that a very considerable portion of sailing vessels would take advantage of that point of departure.

31. We should have a list of vessels that have been lost upon the coast of Ireland.

(*Rev. P. Daly.*) I suppose the best place to get that would be at Lloyd's; but we could give you some partial lists. I think, however, that point rather belongs to the special case of each locality.

32. With regard to sailing-vessels, the Government have no influence over sailing-vessels.

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Deputation.

December 20, 1850.

The object of the Commission merely related to Government steamers; and if you apply it only to steamers, I think you would not get so long a list.

(*Rev. P. Daly.*) Of course the steamers are better able to weather the storm, and to avoid danger, but even steamers have suffered. There was a case the other day of an American vessel going round the coast; she ran ashore off Cape Clear in a fog.

(*Lord Monteagle.*) There is one point which perhaps the Commissioners will indulge me whilst I bring under their attention, though it is a point which they are more competent to judge of than we are. I may mention it now as being one of the heads of inquiry to which I anticipate your attention will be called. I refer to that branch of this subject which has always been noticed in previous parliamentary examinations in connexion with the military communications of the country. It appears strongly to us that, as incidental to the benefits that would result to Ireland from this measure—the establishment of a rapid communication between this country and the British North American colonies, in relation to the modes of relief of troops, is a matter of very great practical importance. It is a matter upon which it is not our business, and we are not competent, as private persons, to urge all the considerations which are connected with it, but all that stands recorded upon past evidence; and I hope that the Commissioners themselves will not allow that part of the subject to escape them. And I would observe also, that whatever the case with respect to Belfast may be (and I would not undervalue it in the slightest degree), I take that as an exponent of the most advanced state of Irish communication and intercourse, the rapid communication of letters is, after all, the primary question to be looked at in making our calculations. I can understand the possibility of a case being made out with reference to the transmission of heavy goods from Liverpool, by which it might be shown that Liverpool communication might be adequate for public purposes, and yet that it might be an immense public advantage, with a view to postal communications alone, to consider this question of Irish, or, we may say, windward communication with America and England. Assuming, for argument's sake, that it could be demonstrated, as I believe it can, that for postal communications there is nothing that can be put into competition with the Irish western or south-western communication with America, we say, that upon national grounds, that in itself would be sufficient to justify the whole of the case; because although it might possibly be the case, that with respect to heavier goods, looking at the expenses of transhipment and of railway communication, a case might be triumphantly made out against Ireland, yet that postal communication alone would form a sufficient object for this mode of transit; and we are satisfied that in respect of goods, of which the weight was little in comparison with their value, and with respect to which expedition was of great value in comparison with the profits upon the transaction, that is unquestionably a branch of commercial intercourse which must naturally follow the course of postal communication. We have no means, of course, of bringing forward to you the evidence of great military men to say what the advantages would be if you had certain steamers sailing from Sligo or Blacksod Bay, or the Shannon, or Bantry, or Cork; but that is a subject which we trust that the Commission itself, *mero motu*, will not disregard, because we are satisfied that it is a matter of very great importance to the country. That was the view taken, as the members of the Commission are aware, by one of our most distinguished military authorities, when the matter was brought under consideration before.

(*Mr. McCullagh.*) I do not know whether the Commissioners have before them any information regarding another point, which is, I think, worthy of consideration; I mean the traffic between the continent of Europe and America. There is, for example, a considerable traffic from Havre; and I believe that if from any port in Ireland the shortest possible marine route is established, and if steam-packets were run from the westernmost point in this hemisphere, a great number of persons would prefer, both for commercial purposes and for purposes of pleasure, to go *viâ* Galway or *viâ* Cork, rather than go to Liverpool or from Liverpool. We know, without any reproach to our continental neighbours, that they are not exactly the most seaworthy persons, and that in the matter of a long voyage, a difference of three or four days is to them an important consideration. Incidental to that there is the advantage which Ireland would derive from having the stream of such traffic through the country, as a means of civilization and improvement, which can hardly, I think, be over estimated. If the Commissioners are not in possession of any information upon that subject, I believe we might venture to offer to procure such information for them.

33. That would be very interesting to us; anything that will carry authenticity with it. Lord Monteagle omitted one thing which he might have mentioned in his favour—the electric telegraph.

34. (*Chairman.*) With reference to continental travellers, we must remember that they would have to cross the sea twice; first the English Channel and then the Irish Channel, and that would lengthen their journey a good deal. If we have evidence that they would do so, we should be very glad of it; it does not strike me *primâ facie* as very likely that they would.

(*Mr. McCullagh.*) It is not my own conjecture entirely, but the result of communication with French gentlemen, who have urged the thing strongly, and I have no doubt that when they could cross to Dover in a couple of hours, and from Holyhead to Dublin in three and a half, and have the advantage of going through this country, and have the comfort of a much less continuous voyage, they would be very much tempted to prefer this route.

(*Lord Monteagle.*) I believe that even if there should be any doubt as to the course that would be taken by passengers going from the Continent, if you can only put yourself in the position of being a passenger returning from America to Europe, the first sight of the southern lights of Ireland would be an almost irresistible temptation to get ashore as quickly as you could.

(*Rev. P. Daly.*) In confirmation of that, I may mention that I was yesterday conversing with the Belgian consul here, and when I opened by some accident the project to him, he

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seemed absolutely delighted; and as I was going to Belgium this evening he said, I could not possibly attempt to come away without having intercourse with some merchants of Antwerp—that it is as much a matter of interest to the Belgians as it is to the Irish—and he had no doubt they would take up the matter with the greatest possible enthusiasm. With regard to the views of the north, I will just read one passage in a letter of Messrs. Kennedy of Belfast, the largest muslin manufacturers in the three kingdoms, who say that they are occasionally in the habit of going over to England and Scotland, and that they never go over but that they meet with foreigners who are entirely ignorant of our productions, and that they have in a great many cases got orders either for themselves or some of their neighbours in the linen trade. That arises from the fact of foreigners never coming to Ireland to do their business. The linen trade in Ireland is now a matter of the utmost importance. It is progressing immensely, and taking root in the west and in the south of Ireland. Mr. ——— has taken 1000 acres of bog in the south of Ireland, and he has this year 100 acres of flax upon it. The people of Belfast are doing all in their power. I have here a communication from Mr. McAdam, the Secretary of the Society for Promoting the Growth of Flax in Ireland. He gives some calculations which I think we might condense and put into a document to lay before the Commission. Mr. Kennedy of Belfast is a man who is very largely engaged in this trade, and connected with Manchester and with London, and I have a letter from him which I will read [*reads*].

35. That will come into the statement which you are going to give us.

(*Rev. P. Daly.*) It will.

36. You seem to confine this entirely to North America; do you abandon the idea of the West Indies and the Mediterranean?

(*Rev. P. Daly.*) By no means. I expected to-day to have an individual before you who could have pointed out to you both the economy and the immense advantage of this communication. He would show to you that for West India transactions, one line of packets would answer the whole purpose, saving the necessity of a second line of packets to the West Indies. There is somewhere out near the Gulf of Florida an immense current in the sea, which runs directly in the passage of the West India packet, which retards her enormously, for it runs 70 or 80 miles a-day against the packets. I had pointed out to me to-day the current as laid down on a coloured map, in the course of the direct passage of the West India packets. Now this proposed passage would answer infinitely better, and avoid all that, and it will be almost direct; you can scarcely call it two sides of a triangle. It is very little difference from a direct line, probably not 150 miles difference. I fancy that at present the Americans take that line, and that ours, which take the direct line, will be found to beat them. But it is a good race, and we shall see by the results which course is the best.

(*Mr. Gregory.*) I may incidentally mention, that some years ago when I was in the House of Commons, the construction of the Galway Railway was under consideration at that time, and Mr. Uniacke, the Solicitor-General for Nova Scotia, one of the most intelligent gentlemen whom I ever met with, was in this country at that time, and we used to have frequent communication with one another, and the subject of this Galway Railway was frequently discussed between us (I merely mention Galway as an example, in order to show the importance attached by the colonists to a more rapid communication with England). He said, the very first object that the Americans have is the transmission of intelligence in the speediest manner, and that positively there is no expense that they are not prepared to go to, and that there is no country that they are not prepared to traverse with the electric telegraph, in order that they may get the speediest communication with the Western States with reference to their bread stuffs. He said the importance of that could not be over estimated, and that they would go to any expense for the gain of even two days in the transmission of news. He appeared to attach more importance to a packet station upon the coast of Ireland than to any other topic, as far as Colonial interests were concerned. I believe my Lord Monteagle remembers Mr. Uniacke very well.

(*Lord Monteagle.*) I shall not go over your ground, but add to it. Some communications have been made to me, not only on the authority of the individual whom I am about to name to you, but on the authority of the great bulk of the colonists with whom he is now in active co-operation, I mean Mr. Pinday, the Government Agent in New Brunswick. In New Brunswick the movement (as is known to the gentlemen who are now present) is as earnest, and the anxiety as intense, upon this subject as it is in Nova Scotia, which has been alluded to. They are all alive upon the question of western communication; and Mr. Pinday within the last two months has written to me upon the subject, telling me that there is but one feeling on the part of the British North American colonies, and the United States likewise. But it has become a very great question, a serious political as well as mercantile question, whether the great line of communication should be effected through our own colonies and in connexion with British interests, or whether it should be left to achieve itself (as it were) through the medium of the United States. The progress of that people is going on so rapidly, that it certainly will be achieved in one way or other; but we are very desirous that it should be achieved with the hearty co-operation, as well as the improvement of our own colonies, without leaving it to the chance of its being taken up by a foreign country, with respect to which we are liable to the vicissitudes of its being a hostile country at times. But achieved it will be; of that I have no more doubt than I have of the fact of my having the pleasure of being received by you now here to-day.

(*Rev. P. Daly.*) The pamphlet which was put in evidence demonstrated the anxiety of the Americans, and especially of our colonists there, beyond any doubt. I am sure that my friend, Mr. Howe here, who represents a very important colony, will be able to tell you the general feeling everywhere upon the subject.

(*Lord Monteagle.*) I take the liberty of urging upon the Commissioners, that when they

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Deputation.

December 20, 1850.

come to look through the documents which are put in evidence, it would be a matter which perhaps would be of great convenience to themselves, as it would be of great convenience to us where the evidence is defective, and where other information is required, some suggestion should be made to us upon the subject. But, of course, I ask this in thorough good faith, not meaning that by any communication of that sort the Commissioners should be directly or indirectly involved. For example, that if they were to call upon Mr. Daly to give the Commission information as to Galway, that does not in any way commit them to Galway; or if I, on behalf of the Shannon, were called upon to provide information of another kind, that does not commit them to the Shannon. We are all disposed to act in entire good faith. I conceive that your inquiries might be facilitated by establishing this kind of guide-posts upon your line, so that we may not trouble you more than is necessary.

(*Mr. Sadlier.*) Following out what Lord Monteagle has said, it has been suggested that it would materially assist the object if the Commissioners could with propriety suggest to this deputation those objections which have been urged in the first place against the establishment of a Transatlantic Packet Station, on the west coast of Ireland, from any quarter which they conceive to be serious. If the Commissioners were enabled at any period to suggest to the deputation what the objections are which have been urged against the establishment of a Packet Station at all upon the western coast of Ireland which they considered as serious, then it would be the first object of the deputation to meet those objections, which they might possibly remove from the minds of the Commissioners. I am led to make that observation by a remark which fell from you, Sir, in answer to an observation of Lord Monteagle, that it was possible that passengers from the Continent would not like to encounter a second sea voyage by landing in Ireland, and then again encountering also the Channel passage. Now, if it would not be considered by the Commissioners as a useless mass of evidence thrown in upon them rather to embarrass than to assist them, I have no doubt whatever from communications that I have had with several gentlemen, who have themselves come from America to Liverpool, and have then gone from Liverpool to Ireland, and have proceeded from Ireland to America upon important business—I have no doubt that I could furnish to the Commissioners a great deal of interesting and conclusive evidence to show that there would be a large proportion of passengers who would avail themselves of the short transit from a western station, and who would feel it to be a very great advantage and relief if they had an opportunity in coming from America of landing on the west coast of Ireland, and passing by railway to the eastern coast of Ireland, and then passing to England. I know some English gentlemen who have come from America, who would have felt it a great relief if they could have landed in Ireland.

37. (*Chairman.*) We thought it might be desirable for the Commissioners to state to the deputation that the first thing we look at is the question of time, because that, I apprehend, is the most important. We assume, from the rate of the voyages of Cunard's line, that they go at an average of 11 knots an hour. Then we also assume that the railway will carry the mails at about 30 miles an hour. We assume that six hours must be allowed for crossing the Irish Channel from Holyhead to Dublin, including the passage itself and the time lost on each side, as an average. The passage itself can be done in four hours and a half, but we think that from terminus to terminus, from the Holyhead station to the Kingstown station, it would take six hours on the average. I ought to mention, that it is in contemplation, by the existing contract, that as soon as the pier is finished at Holyhead, Holyhead will be the point instead of Liverpool, at which the letters will be embarked and disembarked. So that looking forward for a year hence, we take Holyhead as the port, instead of Liverpool. Then we have got this table drawn up, taking for instance Galway, we say that the time from Holyhead to Galway would be 10 hours and 13 minutes; that includes the passage across the Channel, and the railway. Then taking the voyage from Galway to New York at 11 knots an hour, that makes 10 days 8 hours and 16½ minutes from Holyhead to New York. But Cunard's vessel would have gone from Holyhead to New York in 11 days 3 hours 49½ minutes. Then we come to the conclusion that the gain in time by substituting Galway for Holyhead, would be 9 hours and 10 minutes. If that is not so, we should be very glad to have it cleared up.

(*Rev. P. Daly.*) I certainly cannot admit that as true. In the first place, we find that at this moment there are many express trains go from London at the rate of 46 miles an hour.

38. We are taking the ordinary working calculation.

(*Rev. P. Daly.*) We are now considering the simple question of acceleration. In considering that, I have a right to take the fastest average that now exists.

39. We thought we ought to compare the mail train in England, with the mail train in Ireland. We assume that at present the mail trains go as fast as they can conveniently.

(*Rev. P. Daly.*) I have gone from London to Holyhead in seven hours by the express train.

40. That is not the usual rate in the Post-office service.

(*Rev. P. Daly.*) We have gone upon our western railway as much as 50 miles an hour when the Viceroy was about to sail. May I ask what time you allow from Dublin to Galway?

41. Thirty miles an hour.

(*Lord Monteagle.*) That again is from terminus to terminus.

(*Mr. Greene.*) When you diminish the length of the sea passage, have you not a right to take a higher average of speed?

42. As far as you can make out that it would be so.

(*Mr. Greene.*) In what way do you get over the rapid communication by electric telegraph?

43. We have not gone into that; this is merely the passenger traffic.

(*Mr. McCullagh.*) As there would be a considerable difference in the quantity of coal

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taken, there ought to be an allowance made for the securing, in respect of the displacement of the vessel in the water, and the uplifting of the vessel at the end of the voyage.

44. You will understand that this is not at all forestalling the thing; it is only a calculation.

(*Mr. O'Flaherty.*) You put a question to me the last time I was here, upon which I would refer for information to Mr. Penn, who is waiting outside, and he is prepared to show you that a steamer can be constructed for the shorter transit, which will make the passage from Galway to Halifax, at much greater speed than it can possibly be made from Liverpool to Halifax. He reckons 17 nautical miles an hour. He undertakes to pledge his reputation that a vessel can be constructed to make 17 miles an hour. Now you have only calculated 11.

45. That would take about six days to Halifax.

(*Mr. O'Flaherty.*) Five days and a half.

46. If vessels can go at that rate for five days and a half, there would be no great difficulty in making them go 14 hours longer at the same rate.

(*Mr. O'Flaherty.*) Mr. Penn states, that a vessel from Liverpool to Halifax, being a vessel of less power and more displacement, could not go at the same speed as a vessel which may be constructed to go the shorter transit from Galway to Halifax.

(*Mr. McCullagh.*) There is a difference in the weight of coal. There is a difference also in the displacement; and there is a further difference in the lifting out of the water.

47. It makes a difference of 14 hours, added to five days and a half.

(*Rev. P. Daly.*) Suppose you have the opinion of eminent men that the same kind of vessel cannot go at the same rate in the Channel, even from Holyhead.

(*Mr. O'Flaherty.*) Mr. Penn says, having been consulted upon the subject, that he does not hesitate to say that a steam-ship can be constructed capable of maintaining 16 nautical miles between Ireland and Halifax: and he says, that no vessel could be constructed to go at the same speed from Holyhead to Halifax.

48. That is an important fact, if he can substantiate it.

49. What quantity of goods is the vessel to carry?

(*Mr. O'Flaherty.*) No goods at all, except light goods.

(*Mr. Sadleir.*) I do not think any party would urge it, except for the sake of postal communication and passenger traffic. I believe that is the general feeling of the country.

50. (*Chairman.*) What I have stated to you is a calculation upon the evidence which we have at present before us. As far as that goes, it appears to us that you would not gain, with the present class of vessels employed, and with the present rate of speed, more than 10 hours by substituting any Irish port for Holyhead.

(*Mr. McCullagh.*) But it is the general feeling of the deputation, that we ought not to be held bound to acquiesce in that calculation.

51. (*Chairman.*) The reason for which I have mentioned it is, that if any gentleman in this deputation can invalidate it, we shall be delighted. We throw it out for the purpose of asking evidence upon that point.

(*Mr. O'Flaherty.*) Mr. Penn is prepared to be examined to-day upon that subject. He is prepared to show you that a saving of three days can be effected by substituting Galway, or any port upon the west coast of Ireland, instead of Liverpool; because the class of vessel that would be employed, would go at a much greater rate of speed.

52. Could not the same vessel go from Liverpool?

(*Mr. O'Flaherty.*) No, because she is built only to carry a certain quantity of coals, for a certain length of voyage.

(*Mr. Sadleir.*) May I ask whether you have made any calculation to show what would be the loss, in point of time, to the inhabitants of Ireland anxious to visit America, by being compelled to come to Holyhead and to embark from that point, in preference to embarking from the western coast? Of course you feel bound to take into the calculation the interests of the millions in Ireland.

53. Of course an Irishman is going very much out of his way in going to Liverpool.

(*Mr. Sadleir.*) I should like the Commissioners to know the extent to which the people of Ireland go out of their way. I should wish the Commissioners to show to the people of the United Kingdom, how many hours or miles the millions of Ireland are sent out of their way, when they are anxious to visit America; and, in the same way, the number of days that you put the millions in America anxious to visit Ireland, out of their way by bringing them to Holyhead, and then obliging them to embark at Holyhead for Kingstown, to visit Ireland. You cannot forget the strong family ties, and the strong considerations with reference to property, and the feeling of sympathy which exist between the Irish people and their relatives and connexions in America.

(*Mr. McCullagh.*) There is one point which has been very much overlooked with reference to the general communication between the continent of America and Ireland. I have no doubt whatever from some inquiry I have made, that if transatlantic communication, by steam particularly, could be brought to something of an economical point, you would have a considerable amount of re-emigration from America to Ireland. The tendency of those who go to America is constantly to look back, and to come back to Ireland; not probably to remain, but for the purpose of taking their relatives back with them, or to visit relatives who remain behind. I think it should not be lost sight of as a minor weight in the scale, that there would be a re-emigration as a means of supporting steam communication.

54. We are quite aware that the calculation we have made would not hold good as regards any part of Ireland, because there would be the additional distance.

(*Mr. Rainy.*) There is one point with regard to this question which I think is important. I mean the general effect which the proposed communication would have upon the general

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Deputation.

December 20, 1850.

prosperity and improvement of landed property in Ireland. Upon that subject I have devoted some time to the general question; and having had the honour of being consulted upon various occasions in connexion with Irish property, I will take the liberty of saying a word upon it, because it strikes me that if this transatlantic communication from Ireland does take place, inasmuch as it would be the means of introducing a large current of persons through Ireland, and of informing them of a good many circumstances upon which they cannot at present be so well informed, it might lead to activity in the circulation of capital through the country; and in that way it might tend to give increased employment to the labouring population. I take the liberty just of throwing that out, because my own impression is that it might have a very important tendency in that way.

(*Mr. Howe.*) As my Lord Monteagle has done me the honour to mention my name, I may say that I am here to-day by invitation of some Irish gentlemen, rather as a spectator than in any other character. My object in visiting this country is to put myself in communication with the Government, with reference to certain important improvements which we are projecting across the maritime Provinces,—I mean Nova Scotia and New Brunswick, as contradistinguished from Canada. My communications are, of course, with the head of my department, the Colonial Office; and the views and arguments upon which we rest our case have been put partially, and will be put further into Lord Grey's hand, in a collected and condensed shape. I take for granted that, if it were in my power to communicate any information to this Commission, it would come better in those communications than by my giving them in the form of mere loose parole testimony which might only waste your time. I can only say, however, that if, while I am in England, there is any information that I can give to this Commission, I shall be exceedingly happy to do it, either verbally or in writing, or in any way. I shall take it as a favour to be allowed to do so, because we are interested in the facts. I may say, however, that we feel upon the other side of the water a deep interest in this question. We consider that Great Britain owns in America a territory as large as the whole of the United States—as large as Europe—covered with forests, filled with mines, surrounded with the best fisheries in the world: in fact, containing in its bosom, and around its coast, the elements of national wealth. We consider that we have a freehold inheritance for every unoccupied man in England, Ireland, and Scotland; and that we can take into our forests and new settlements, and advantageously employ, every man who is now able to work and yet is maintained by the property and industry of the three kingdoms. And, therefore, the question of how we are to get your surplus labour into our surplus land, is one which I think ought to interest you as much as us. There is another point of view in which this question may be regarded. During the last five years we have had, in the British Provinces of North America, the potato rot as you have, had it quite as general and as destructive; we have also had the weevil occasionally in our wheat; and our crops, upon the whole, have been as much damaged as yours have, and yet, in Canada, in New Brunswick, and in Nova Scotia, there has not been any family that has gone without three meals a-day during all that time; and therefore we feel that if, during the last five years, we have had a very large portion of the people who died here within the realm of England, and a very large portion of those who were a burden to their friends and neighbours, we could have maintained them equally well with those we had. We know, also, that the workhouses and poorhouses of your large cities are filled, at the present moment, with a great portion of unoccupied labourers; and we are aware that a very small proportion of all the inhabitants of the three kingdoms owns an inch of land as freehold estate. We feel, also, that your having incurred a national debt of 800,000,000*l.* sterling in order to acquire those territories, the people of England and Ireland and Scotland ought to have a portion of them; and we are exceedingly anxious that our country should be filled up, and that it should be strengthened on that side of the water as against what I conceive to be the only enemy that Great Britain has there—the United States. Now you have in those provinces a nucleus of settlements already formed with railroads through them; and we are about to make other railways with a view of facilitating our intercourse; we have, therefore, a very deep interest in this question.

Permit me to say, having listened to the evidence which has been given, and the views thrown out by the gentlemen here, that this question does not appear to me to be clearly understood by a good many persons who take a great interest in it. I speak, of course, without reference to any gentleman whose opinions have been expressed here. It divides itself, in my mind, into two or three branches, first with respect to the transmission of intelligence. You, on this side of the Atlantic, are not aware of the importance attached to it on the other side. I will give you a simple illustration. It was proposed, two or three years ago, to build an electric telegraph across Nova Scotia and New Brunswick into the United States territory, to communicate with their lines. The Government of Nova Scotia felt that this was likely to become an American engine, to be worked as against you and against us in a variety of ways; for instance, suppose the price of corn rises here, or suppose the price of cotton rises here a halfpenny per pound, the American speculator, who has that information an hour before the rest of America, makes his million of dollars almost at once. In a variety of ways, therefore, the inhabitants of these islands would be injured and made to pay by the monopoly of that instrument of the conveyance of intelligence in the hands of American speculators. We have, therefore, passed a law by which we will not allow, at least it is the generally understood policy of the Government that we will not allow, any American gentleman to come in and compete with our line. We say, run as many wires as you please, but we will have the control of it. Now mark the effect of that. That line was scarcely completed, before several agents of American Companies in New York and Boston would have purchased the control of that line at any amount of money. It cost us something under 5000*l.* We could have had 10,000*l.* the instant it was completed, or any amount we chose to name. But we kept it in our

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own possession. Now you may determine to choose an eastern port for your packet station; the interest of Liverpool or Manchester or some other interest may overbear the interest of the right place; but I am sure that if you withdraw your bounty of 140,000*l.* for carrying the mails, and leave the market open, and give me a monopoly with the right to transmit across Ireland the electric telegraph wires, I will undertake to form a European American Company in a week that would undertake the whole business and transmit letters and intelligence. Because, suppose cotton is up a halfpenny a pound, a man who knows it one hour before his neighbour (to say nothing of 10 hours) can pocket his million of dollars. So with corn, and so with a variety of goods—iron for instance,—the price of iron rising 20*s.* or 10*s.* in the English market is immediately a matter of large consideration to speculators on the other side. Therefore, as regards the transmission of intelligence, it will make its own channel. The nearest and most practicable points, I take it, will be seized upon by the speculators in commercial industry, no matter what the decision of this Commission may be, provided the British Government does not step in and give, as it now does, a bounty of 140,000*l.* a-year for carrying letters and intelligence from an inland place. That might, for a time, embarrass Ireland or embarrass the British Provinces in our communications, because the competition is conducted against unfair and unequal advantages.

Now, with respect to the transmission of letters, you get back a large portion of the sum you pay at present in the postage of letters across the Atlantic. How could that be effected, if you had to compete with a steam line having the advantage, not of ten hours, but even of five hours: no business man would send a letter that is to be five hours behind its time; and, therefore, the moment a line of communication is established across the Atlantic, whether by the interference of Government, or by the activity of private enterprise, which is four hours or three hours quicker than yours, the letters of England, Ireland, and Scotland, would all flow into that channel, and letters from the Continent, and American letters also. The Americans are proverbially people who will never be behind time if they can possibly help it, and therefore their letters will all go by the quickest channel.

Now, with respect to the subject of emigration and colonization, and the means by which that is to be effected, I intend in the next ten days or a fortnight to put into shape the views I entertain upon that subject, and submit them to Lord Grey; and his Lordship will probably, if the subject is connected with the business of this Commission, allow me to lay some observations before this Commission. It is a subject of great magnitude and importance; but it appears to me that the subject of emigration may be touched upon and dealt with without determining from what port the emigration is to proceed. Now, I entertain this belief, that the first line of your chain must be an ocean omnibus of some sort. In point of fact you will continue the Strand, if I may so express it, to the North American provinces. You will make a high road from your own business port to your colonies, which shall be a continuation of your great commercial street. The selection of any one port is not necessarily connected with or indispensable to a well-digested system of colonization and progress. Supposing, for instance, you want to send 1000 emigrants from England to Canada, or New Brunswick, or Nova Scotia, and you do not want to have the trouble of transporting them by land to Ireland, and carrying them across Ireland, you would embark them from Southampton or from Liverpool. Supposing you want to send them from Scotland, you would embark them from Glasgow. Supposing you want to send them from the north of Ireland, you would send them from Belfast or Derry. Supposing you want to send them from the south, you would send them from Cork, or some other port upon that coast. Therefore, it appears to me that the question of the transmission of letters and of passengers is quite distinct from the transmission of emigrants. In the transmission of emigrants there need not be any rivalry between the great ports of the three kingdoms; they are all equally interested in it. I feel, however, that I have occupied, and perhaps wasted, too much of the time of the Commission, and I beg to say that I thank you for the indulgence.

(*Rev. P. Daly.*) I will briefly make one observation with reference to the calculation which the Commissioners have before them, to ask whether that calculation, taken in an isolated form, would have the slightest effect whatever in determining the main question of advising a packet station on the west of Ireland, throwing out of view attention to the electric telegraph—throwing out of view the facilities that would be given by a western station to people who do not like a long voyage—throwing out of view the dangers of the channel navigation—and throwing out of view, above all things, the great importance of this matter to Ireland itself.

55. (*Chairman.*) I should hope the Commission will give due weight to every one of those considerations; but naturally the great argument that has been put forward is the saving of time for letters, and certainly if our data are correct from which it would appear that only ten hours would be saved, I think the subject has rather a different aspect from what was at first anticipated. Most people seemed to think that the saving would be much greater than ten hours.

56 This is only one little ingredient. There are a great many other considerations.

(*Mr. Howe.*) As I understand, the Commissioners would be anxious to have the statement corrected, if it is not correct; but they assume it to be correct.

(*Chairman.*) Surely.

57 We do not calculate upon the vessels going 17 or 18 miles an hour.

(*Mr. Greene.*) Allow me to ask whether any calculation has been made as to the saving by the electric telegraph, in the communication by a western port of Ireland in contradistinction with Holyhead, because that appears to me to be a main consideration.

58. (*Chairman.*) We should be glad to hear a little about the electric telegraph, because, as far as we can make out at present, it is not much used for commercial purposes. If we could get any mercantile men to show to us that the telegraph from any part of Ireland would be

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Deputation.

December 20, 1850.

much used, it would be an important consideration. Supposing that the vessels at present go almost within sight of Cork, it might be worth their while in coming from America to stop at Cork, and to despatch intelligence by the electric telegraph and go on. That is one thing among many others that might be suggested.

(*Mr. Greene*) Would it not be desirable to show to the public distinctly the difference between the electric telegraph by a western port of Ireland and the present communication? When we find that in America the electric telegraph is the chief means of communication, is it not desirable that the exact difference between the two should be laid before the British public?

(*Mr. Howe.*) I may say that as a stranger it has quite astonished me to find that your telegraph does not answer, because at present our telegraph pays handsome salaries to the persons employed; pays all its expenses, and yields to the Government 10 per cent.

59 The difference of time you have alluded to is a very simple calculation, because you may suppose the electric telegraph to convey intelligence instantly; and therefore you may take the whole difference of the length of the voyage, exclusive of the passage across the Irish Channel, till you get the wires laid down across the Channel.

(*Mr. Greene.*) In America the electric telegraph is in general use, because the system is a well-arranged one; but here, because the electric telegraph is on a defective system, the public are not prepared to entertain the question.

(*Mr. Howe.*) There is one reason, perhaps, why your telegraph in this country does not pay as ours does You have a penny postage, which is a great public convenience, and it is a great competitor with the telegraph in the transmission of ordinary intelligence. But this is the view to take of it,—the rise or fall of your great staples is a subject of so much importance to mercantile men, that the moment you can get a telegraph across Ireland to a sea-port, there would be steam communication to take the intelligence across. It is a question for the Government whether they will interfere, and exercise a control over it.

(*Mr. McCullagh.*) The value of the electric telegraph is only seen when it is applied to long distances. The value of the electric telegraph, for a short distance, is almost nothing. Its value for great distances is very great. As I take it, the difference in the working of the electric telegraph between England and America, depends very much upon the great difference of distances. The difference between Liverpool and Birmingham, by post and by the electric telegraph, is almost worthless; it does not make a difference of a-day,—it does not make a difference of a quarter of a-day. But the difference in the communication of a whole day between the whole continent of America and London, is a difference of fortunes lost or made. It is not to be measured by the mere difference of the length of time between Galway and Dublin, and so by Holyhead to London, as compared with the present route; but it makes a difference of a day from Halifax to London; and you would have the same information on the morning of Wednesday, instead of the morning of Thursday.

(*Mr. Greene*) Taking the calculation which you have read, of 11 days 3 hours from Holyhead, the communication by electric telegraph by Galway or Limerick, could be effected in seven days at most. Consequently there must be, for all important commercial and other postal purposes, a saving of three or four days.

(*Mr. McCullagh.*) Even taking the saving in the conveyance of news to be only 15 hours, I conceive that there are 20 people in mercantile pursuits who will think it well worth while to pay at a high rate for a saving of 15 hours, for one person who will think it worth his while to expend sixpence in saving only five hours. It is not to be looked at merely as three times five, but as the difference between something and nothing. It is admitted that the news could be conveyed 15 hours sooner.

(*Mr. Greene*) I claim three to four days' saving.

60. (*Chairman.*) That is assuming that the vessels go 17 miles an hour.

(*Mr. Greene.*) Taking it at 11 days 3 hours from Holyhead.

61. (*Chairman.*) That is, at the present rate.

(*Sir De Lacy Evans.*) As one of the representatives for this country, perhaps I may be allowed to explain why I take part in this deputation. I attend here upon this question because I do not think it is a question of rivalry between Ireland and Great Britain. It is a question of rivalry between the port of Holyhead and any port which should be chosen in Ireland, which I do not think a matter of gravity for consideration; but it appears to me that there is not the slightest injury likely to arise to Great Britain, should the change sought by this deputation be established, because it is to be presumed that the great stream of travellers that will land on the west of Ireland, will come on to the heart of the empire. But, on the other hand, it is a measure directly inimical to Ireland to establish a port to the east of Ireland for transit to the west; that is an important consideration, which I think ought to be kept in view. That it is a step of direct hostility to the interests of the western part of the empire, to establish a port for western communication in an eastern part of the empire; and I think it is clear that Great Britain, as well as Ireland, would be benefited by selecting the most western point.

(*Mr. McCullagh.*) Let me put the question in this way. Suppose there were no channel between England and Ireland, where would you fix your western port? Would you put your point of departure anywhere short of the extremest western port which the coast would furnish?

62. (*Chairman.*) We may take, as an illustration, the West India Line. Certainly the Government did put that at Southampton, when they might have put it at Falmouth or Plymouth. I agree, as a general principle, that we ought to take the westernmost point; but that has not always been the rule, because other things have intervened, such as a regard to the great

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centre of business, or the facilities of railway communication. A variety of things have interfered with the application of that proper and legitimate principle of taking the most western point.

(*Mr. McCullagh.*) But at least a strong case ought to be made out for selecting the wrong place.

(*Rev. P. Daly.*) It might be put in this way:—Supposing England to be in the place of Ireland, and Ireland in the place of England, where would the packet station be then? Supposing Galway were in the place of Liverpool or in the place of Holyhead, would the packet station be placed there?

63. Supposing you had a packet station on the west of Ireland, it would only be for letters and passengers?

(*Rev. P. Daly.*) I beg pardon. Mr. O'Flaherty stated to you that there was a scientific person ready to tell you, that he was ready to construct a packet that would go 17 or 18 miles an hour, for light goods, for passengers, and for mails. If you only took into consideration the mere transmission of quick intelligence, that would be sufficient, in my opinion, to justify this project; but I do not want to lose sight of the immense facilities and advantages that it would afford to trade generally. Supposing that no goods were taken but light goods; what are light goods? The most valuable goods. Are muslins not to be considered? Are linens of no consequence? The linen trade is the making of Ireland. It is the restoration of Ireland. It ought to be regarded as a matter of the greatest possible importance. Documents will be produced which will prove to you that the millions of money which are now going for linens to Germany, to Belgium, to Switzerland, and to France, will be spent in Ireland for linens made by the hands of the people who are now starving.

[*The Deputation withdrew.*]

John Penn, Esq., examined.

John Penn, Esq.

64. (*Chairman.*) Have you any statement to make with reference to the subject on which this Commission is making inquiries?—In the course of two or three weeks I shall have a plan ready from which I can speak more absolutely; but at present I can only say, that, understanding that it is contemplated that vessels may be required to run from Ireland instead of running from Liverpool, I should say that the shortness of the route would be a very great advantage indeed. It would enable us to employ another class of steamers by which very great speed could be obtained, much greater than at present.

65. The point upon which we should be anxious for information from you would be, whether this high rate of speed which you think could be obtained from Nova Scotia to Galway or any other port on the west coast of Ireland, could not also be obtained to Holyhead?—That I must consider. I do not know the difference of distance.

66. What rate have you taken? Have you taken 17 knots an hour?—No, I take 15.

67. The attention of the Commission is at present directed rather to the comparative advantages of Holyhead and a port in the west of Ireland; therefore, we should not require you to enter into the general subject of the amount of speed, but only how that speed would be influenced by the substitution of one port for the other?—The saving of 12 or 14 hours would make a great deal of difference. That is a point upon which I should be glad to give any information in my power.

68. Can you give an idea of the draught of water of the vessel which you think should be employed?—About 19 feet.

69. And the tonnage?—I think it would require to be 280 feet.

70. And of course a very large proportionate power of engine?—It will be another shaped vessel. I do not consider that the vessels at present in existence are of the right shape.

71. Would you put in your own engines? A combination for this particular purpose.

72. What would she measure across the paddle-box?—At this moment I cannot quite recollect, but the beam would be about 40 to 41 feet. I would prefer, if you please, delaying to give these particulars till I have prepared my plans. It behoves us to be seeing about speed, seeing what the Americans are doing.

73. Are they improving in speed?—I think their vessels are a little faster than ours. By a statement I saw to-day, it appears that they have rather the best of it.

74. But you do not contemplate being beaten by them in any way?—We ought not. I would not be beaten by them.

75. You take a new form of vessel and a new modification of engines from what you at present produce?—They would be somewhat different. Upon the same principle, but differently arranged.

76. And the consumption of coals would be in proportion to the power?—It would be considerable, there is no denying it. The engines would be so constructed as to develop a large amount of power with a small weight of engine.

77. But a large consumption of coal?—There must be where you go fast. The vessel would be much faster than the present ones. Upon this point I shall be able to speak more fully.

78. As a general principle, you would say that the shorter the voyage the quicker it can be done?—It makes all the difference. Even shortening it 14 hours would make a great difference.

[Adjourned.]

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FRIDAY, 17th January, 1851.

The Earl GRANVILLE in the Chair.

Deputation from Cork.

January 17, 1851.

The following gentlemen appeared as a deputation from the City of Cork.

Francis Stack Murphy, Esq., Serjeant-at-Law.
John Shea, Esq.
Captain Sir Robert Hagan, R.N.
Joseph Anderson, Esq.
John P. Hardy, Esq.
Eugene M'Swiney, Esq.

(*Mr. Serjeant Murphy.*) I have the honour of attending your Lordship and the Commissioners, in consequence of my having, in the absence of the members for the city of Cork, been requested, as having held the capacity of representative on a former occasion, to introduce this deputation upon a matter in which my fellow-citizens feel a deep interest, and I hope to be able to show that, even although this should be considered an imperial question, it can be satisfactorily proved that, while the interests of the empire at large would not suffer from the adoption of Cork as the port of departure and arrival of the transatlantic steamers, Ireland would be greatly benefited in its postal arrangements, and that the delivery of letters in England even would be accelerated.

Without going minutely into details, I will only state that the Great Southern and Western Railway have arranged to convey the mails in five hours. The communication from Kingstown to Holyhead averages four, and from Holyhead to London is about 10 hours on the average, making the whole communication, all stoppages included, about 20 hours. The effect would be to accelerate the postal arrangements of Cork, Dublin, Belfast, and the south of England and the south of Scotland; and on comparison with the present conveyance by steamer by Liverpool, and thence to London, it will be proved that London letters, by the proposed plan, would be received some six or seven hours sooner than by the Liverpool route.

As to passengers, the avoidance of the channel navigation would also form an important feature in the proposed plan. In addition to that, there would be electric telegraph communication from Cork to Dublin, so that the transmission of public news would be much accelerated. It is well known, also, that Cork possesses the greatest facilities as a harbour; it would afford every facility for the repair, docking, and general arrangement of steam-ships; and the Passage Railway gives a mode of access from the harbour to the city of Cork, and so to Dublin, which is most important.

There would also be a considerable diminution of expense. The expenditure in the article of coal, as between Liverpool and Cork, forms an item, as I am informed, of from 500*l.* to 600*l.*; but these are data which will be presented to you in detail. The general features only are what I was to present to your Lordship. Leaving to the other gentlemen to go into the more minute questions of detail, I simply put the case upon the ground which I have roughly stated to you, that we are in a condition to show that, if this is made an imperial question (as it ought to be), we can serve England and, at the same time, serve Ireland; and that the effect will be that, while the general interests of the community will be duly promoted, as heretofore, Ireland, in its individual capacity, will be infinitely better served. We complain that now, while the steamers pass within sight of our shore, we do not receive our letters till 48 hours afterwards, and by their being landed at Cork, we shall have our correspondence 48 hours sooner. And not only that, but the correspondence of Dublin, the correspondence of Belfast, and the correspondence of the whole of the south of England, will be materially expedited by adopting Cork as the transatlantic packet station, instead of an English port. With these observations, I will leave it to these gentlemen to enter into more specific details.

(*Mr. Shea.*) After what Mr. Serjeant Murphy has stated, I think it will be unnecessary for the deputation to travel over the arguments and facts which we have submitted in the documents before the Commissioners, and we shall confine ourselves to touching upon one or two important features of the subject. We would respectfully urge, that a strong case has been made out for the establishment of a transatlantic packet station in Ireland, the commercial condition of which would be materially benefited by it, without in any way diminishing the facilities of communication from America to the other portions of the empire; we also submit to your Lordship and the Commissioners, that the people of Ireland have great reason to complain, that the mail-steamers now pass within sight of their harbours, conveying their letters to Liverpool, to be transmitted back again to Ireland, causing a delay of 48 hours in the delivery. We hope that the evidence which has been laid before you has shown, that this grievance on the part of Ireland may be removed without subjecting the English and Scotch correspondence to any detention; and in order to satisfy the Commissioners that we are not unreasonable in complaining upon this point, I would observe, that recent returns represent that the correspondence of Ireland amounts to one-third of the whole of the letters brought by the mail-steamers. The proportions are 27 to 73. We conceive that to be a very important feature in the case. We are unwilling to trespass too much upon the valuable time of the Commissioners—

79. (*Chairman.*) We are anxious to hear everything you have to state.

(*Mr. Shea.*) We think that little additional argument can be offered to prove the great commercial and social advantages that would result from the selection of an Irish port as the medium of communication with America, and the impulse that would thereby be given to industry in a country whose population has suffered so much from the absence of remunerative employment. Having thus alluded to the great question, I would now beg to be permitted,

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without wishing to convey any disparaging insinuation with respect to other competing ports, to place prominently before your Lordship and the Commissioners the great capabilities of the port of Cork, the safety in approaching and entering it, the facilities of internal intercourse, and the accommodation in every point of view associated with the port of Cork, which also, it is important to observe, compared with others, will require little if any additional outlay. We are satisfied, that the peculiar advantages connected with that harbour, recognised and acknowledged as they already are by the great mercantile world, which no legislation or law can remove or deprive her of, will meet with that earnest attention from the Commissioners to which their great importance entitles them. We feel that every consideration justifies us in seeking for a participation in the benefits which this great country enjoys, and which, if conceded in a just and liberal spirit to Ireland, will tend greatly to strengthen the bonds of union between the two countries.

(*Sir R. Hagan.*) I have very little to add to the statement of the late mayor, particularly as I have had the honour to submit three written reports to the Commissioners on the subject.

80. (*Chairman.*) We are very anxious to hear all that the gentlemen have to state, but the statements you have sent us in writing are so full, that it will be difficult probably to add to them in conversation. There are a few questions about the dock, which we wish to ask.

81. You stated that the railway would convey the mail in five hours, that is, between Dublin and Cork?

(*Mr. Shea.*) Yes, at present it takes seven hours; after the 1st of May they will accelerate the mail to 35 miles an hour; the distance from Cork to Dublin is 164 miles.

82. It is, we believe, a very excellent railway?

(*Mr. Serjeant Murphy.*) I believe it is the best in the three kingdoms.

83. From Cork to Passage there is another railway?

(*Mr. Shea.*) Yes.

84. Passage you look to as the starting point?

(*Mr. Shea.*) The great advantage of Passage is, that you can go to Passage at any state of the tide.

(*Mr. Serjeant Murphy.*) By a regulation in the Company's Act, they are obliged to keep 100 frontage, for the purpose of giving facilities to ships coming to load and unload. There is high-water at Passage at all times of the tide. Therefore, taking that to be the point, it would facilitate the matter.

(*Sir R. Hagan.*) There are steam-boats running upon the river, from Queenstown to Cork, which go in from 45 to 70 minutes, according to the state of the tide and weather. The bags might be put at once into one of these, to go to the terminus, and any passengers who wished, might avail themselves of the same opportunity; there is plenty of water alongside the quay for these boats.

85. What depth of water have they at high-water?

(*Sir R. Hagan.*) Six feet is the lowest water at the lowest spring-tides, over the banks between Horse Head and Black Rock; and the river-boats only drawing four, of course they go at all times of the tide, and probably the passengers would be very glad to avail themselves of such conveyance.

86. If there is a railway all the way to Passage, why should they take a steamer?

(*Sir R. Hagan.*) I referred to Queenstown, where I supposed it was intended the packet should stop; Passage is two miles higher up.

(*Mr. Serjeant Murphy.*) We are peculiarly situated at Cork; we have a double channel, and there are three railways which all tend to one point. They could easily make a communication by means of a swing-bridge, without impeding the navigation in the least.

(*Mr. Shea.*) The terminus of the Great Southern and Western Railway is about a mile from the river, but it is intended to bring it to the quay.

87. It would of course strengthen your case, if you could show a continuous line of railway all the way to Passage.

(*Mr. Serjeant Murphy.*) Practically, it is because they are going to make a swing-bridge, which will cross the arm of the river; they are merely separated by the river, and there could be made with the greatest facility a swing-bridge, carrying the rails over.

(*Mr. Shea.*) It may really be called a continuous line of railway from Dublin to Passage.

(*Mr. Cowper.*) Does the Passage Railway come close to the river?

(*Mr. Shea.*) The Passage Railway comes close to the river.

88. The line must be continuous, otherwise you have to transfer the luggage twice.

(*Mr. Serjeant Murphy.*) A very trivial expense would make it continuous; that is quite demonstrable. If that is necessary, probably the Commissioners would do us the favour of allowing us to send in a supplemental statement as to that fact.

89. It would be material, with reference to the facility of making use of the Passage station.

(*Sir R. Hagan.*) In the meantime, there is a conveyance by the river from Queenstown and Passage.

90. But still there is a transfer. If the packet starts from Holyhead to America, the goods and passengers are never transhipped again; but if they go by way of Ireland, they must first be put into the Holyhead packet, and go to Kingstown, then they must be landed at Kingstown, and carried to the terminus of the Southern and Western Railway; then they start again on that, and are carried to Cork. All those transhipments are attended with inconvenience and delay; therefore, if that railway is continuous to the packet station, it so far avoids that objection.

(*Sir R. Hagan.*) The meeting a south-west gale in going down the channel in a steamer would be a greater cause of detention and inconvenience than all those put together.

91. That is an element on the other side again.

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Deputation from Cork.

January 17, 1851.

(*Sir R. Hagan.*) Cork possesses great advantages from its situation on the coast, far above other ports in Ireland, and it is superior in my judgment to Liverpool or Holybead, because you avoid the dangers of the channel, and the dangers of a lee-shore.

92. In making a remark of that kind, you are not to assume that we are making a formal objection against Cork.

(*Sir R. Hagan.*) I beg to say, and I suppose it must he admitted, that Cork possesses advantages far superior to any other port in Ireland, for the reasons which we have submitted to the Commissioners. The mere fact that there are other places on the coast some 40 or 50 miles nearer to any port in America, is no consideration, in my judgment, compared with the advantages of the fine barbour of Cork, and compared with the coast in approaching it. We have pointed out, that it is not a lee-shore; the prevailing winds being south-west, a westerly wind blows along the shore, consequently there is no danger to he apprehended, supposing the steamer should become disabled. The steamers cannot command the elements; sometimes accidents occur to them as well as other vessels, and then, if they were making for Galway or the Shannon, for instance, they would he in considerable danger; whereas, in Cork they have nothing to do but to put the helm a-port, heave the ship to, and wait for clear weather. But it would he very rarely that they would have to do so, because it is so easy to approach. After a man had come in two or three times to Cork, be could come in nearly blindfold. I think all seamen must admit that; it is not a debateable point.

(*Mr. Shea.*) The mail-steamers, Cunard's packets, are frequently seen passing Cork harbour in seven days from Halifax.

(*Sir R. Hagan.*) They invariably run for Cape Clear, and make it if possible.

93. Do you know what are the capabilities of the dock which is now preparing, or what they are likely to he?

(*Sir R. Hagan.*) The plan has been submitted to the Admiralty and approved of by them, by which a large steamer can he docked.

94. Do you know what is the size of that dock?

(*Sir R. Hagan.*) At present it is not capable of docking one of those large steamers; but a proposal has heen submitted to tbe Admiralty, and it is now about to he carried into effect—to make a dock at Passage capable of docking the largest steamers.

95. That plan only goes to the width of the gates. What is the deptb of water?

(*Mr Shea.*) In ordinary spring tides it is 14 feet. They have no more at the Dock-gates; but they will sink a lower sill about six feet, so as to make 20 feet.

96. What would it be over the sill?

(*Sir R. Hagan.*) They propose to sink it 6 feet at least below low-water spring tides.

97. What water should vessels draw to he able to come into that dock?

(*Sir R. Hagan.*) 19½ feet water is what has heen laid down in your queries. They will go in with that depth of water.

98. What arrangements have been made for carrying into effect what bas heen suhmitted to tbe Admiralty?

(*Sir R. Hagan.*) It is a private dock. The owners are wealthy people who intend to do thie. They have submitted tbis plan to the Admiralty, and it will he carried into effect.

99. That plan which was submitted to tbe Admiralty does not give the depth of water. It only gives the width of the gates.

(*Sir R. Hagan.*) Then I am authorized to say tbat it will he 19½ feet at least.

100. But it is probahle, that when the vessel goes into the dock she would not draw 19½ feet.

(*Sir R Hagan.*) There are cases in which it is desirable to get a ship in drawing a great deal of water. I remember H.M.S. "Valiant," a 74-gun ship, getting on shore, and she went into dock with everything on board: and it may happen that one of these packets would come in witb a hole in the hottom. Of course if there are 20 feet water, she would be able to enter at once.

(*Mr. Hardy.*) The suggestion originated with the Admiralty themselves. It was mentioned to Mr. Brown, that if he enlarged his docks sufficiently to admit Her Majesty's vessels, he would obtain the business of the Crown; and he accordingly adopted that suggestion.

101. But there is nothing in the plan suhmitted to the Admiralty which shows the full capability of the dock, except as to the width of the entrance.

(*Mr. Hardy.*) Even at the lowest neap-tide there is a sufficient depth of water for vessels of that class just outside the dock; and I understand that the docks will he so constructed as to admit vessels, at high water, drawing 25 feet. There is ample space there. I am sure the dock in every other respect will be sufficiently capacious.

102. Is this dock being constructed by a company or by Mr. Brown?

(*Mr. Shea.*) It is entirely private property.

(*Mr. Serjeant Murphy.*) In fact, Mr. Brown is a very wealthy man. He has monopolized the repair of all vessels that put into Passage and Cork. Of late years, since the Indian corn importation has heen so great, that bas been a very important business; and I am told, that Mr. Brown makes as much as 15,000*l.* a-year by it.

(*Sir R. Hagan.*) There is a basin contemplated at Cork, for the purpose of loading and discharging vessele in connexion with the Southern and Western Railway Company. There is a Bill preparing now for the purpose.

103. Where would you let the vessel go to? For instance, a vessel drawing 19 feet water, bow near could she come?

(*Sir R. Hagan.*) She would come alongside the quay at Passage, or the quay about to he built at Queenstown.

104. Then, have you 20 feet of water at the quay at Passage?

(*Sir R. Hagan.*) A jetty of about 15 feet from the pier would suffice.

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Deputation from Cork.

January 17, 1851.

(*Mr. Hardy.*) A line-of-battle ship with all her stores could lie there.

105. What water is there?

(*Sir R. Hagan.*) Ten fathoms. The channel becomes narrow, and it is very deep.

106. What distance is the entrance of the proposed dock from the channel?

(*Sir R. Hagan.*) Not more than twice the length of this room: it is only necessary to carry the dock-gates out a little further.

107. Do you not mean that you would carry the dock-gates out into deep water? I suppose, you would either cut a channel from the centre of the dock-gates into deep water, or you would carry the dock-gates out into deep water?

(*Sir R. Hagan.*) Precisely, out to 20 feet.

108. The shore is very bold, and it is a short distance to deep water. Your engineers would adopt whichever was the best way?

(*Sir R. Hagan.*) Certainly; of course the coffer-dam must be used, which, in a place like Passage, would be no difficulty at all; it is not like Liverpool; it is done every day in places fifty times worse. The first vessel that was docked in Passage was docked under my orders. I remember taking a great deal of interest in the matter, as I foresaw the advantage of the dock when it was opened, and that it would lead to a more enlarged accommodation at a future day.

109. Is there anything to prevent a vessel coming alongside the wharf at Passage in a gale of wind?

(*Sir R. Hagan.*) Nothing whatever; when a gale of wind is blowing from the sea outside you have none of it at Passage. It is quite landlocked. In the heaviest gale of wind you would scarcely have any wind up there, particularly with the prevailing winds.

110. To get up to Passage you have to pass through the fleet which is lying at Queenstown?

(*Mr. Hardy.*) There is a harbour-master. Those vessels are obliged to anchor in a certain position, so as to leave the passage clear.

(*Sir R. Hagan.*) I was on board H.M. 72-gun ship Belleisle when she worked from the outer Roads to the anchorage off Queenstown; she was then commanded by the present Rear-Admiral John Toup Nicolas, and I assisted in piloting the French double-banked frigate Didon, of which the Prince de Joinville was a Lieutenant, out of Cork Harbour. Therefore, when we can work a French frigate out, and an English line-of-battle ship in, I think the harbour must possess qualifications of no ordinary kind. Besides, a steamer can cut in and out in a way that a sailing vessel cannot.

111. Are there many shoals marked by buoys there, from the entrance of the harbour up to Passage?

(*Sir R. Hagan.*) The harbour is well buoyed, from the entrance to Queenstown. After we pass Queenstown there is nothing to buoy. I would not be afraid to go into Cork Harbour blindfolded. I never saw a harbour more easy of access. I think I have been in and out of that harbour 1600 times. Therefore, I ought to know it pretty well: and I can say with confidence, that it possesses all the qualifications which can be desired for a packet station.

(*Mr. Hardy.*) The Ballast Board of Dublin are about erecting a fixed light on the Spit Bank, which is a very remarkable object, and at present there is only a very imperfect light.

(*Sir R. Hagan.*) That will be necessary only for sailing vessels.

[*The Deputation withdrew.*]

THURSDAY, 23rd January, 1851.

The Right Hon. Earl GRANVILLE in the Chair.

S. Cunard, Esq.

January 23, 1851.

Samuel Cunard, Esq., examined.

112. You have been much employed as a contractor for the Admiralty in carrying mails across the Atlantic?—I have.

113. Can you state shortly what the contract is now?—Yes, I can; perhaps if I were to state the origin of the steam-packet communication with America it would be interesting to the Commission. Formerly the mails were conveyed monthly by the old ten-gun brigs, which cost the Government about 40,000*l.* a-year, and a number of valuable lives were annually sacrificed. Scarcely a year passed without the loss of one or more of these vessels, with all on board; I had lost many friends myself by them. Having made many passages on board these vessels, I was well aware of the risk and uncertainty attending them, and I came to England about thirteen years ago, with a determination of inducing the Government to establish a line of steam-ships. I had many influential friends who readily gave me their countenance and support, and, by great good fortune, Sir Charles Wood happened to be the Secretary of the Admiralty, and Sir Francis Baring the Secretary of the Treasury. I was favourably introduced to them, and they gave me every assistance in making calculations, and afforded me other useful information, which I stood much in need of, as ocean steam service was new at that time, and the country is indebted to them for this regular line of communication, which has not only superseded the old and dangerous mode of conveying the mails, saving the large annual cost of the sailing packets, but this service is performed without any expense to the Government; the postage received is quite equal to the sum paid to me, which is 145,000*l.* per annum. In the first instance it was agreed that I should perform the service twice a month, with three vessels of 300 horse-power. It was afterwards found that ships of a larger size and power were necessary, and they have been increased from time to time, as ex-

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S. Cunard, Esq.

January 23, 1851.

perience pointed out the necessity. Within the last few years we built four ships of 700 horse-power, costing 360,000*l.*, and last year two more of 800 horse-power, costing 200,000*l.*, and we are now building two others of 1,000 horse-power, that will cost 220,000*l.* Having originated this line of steam communication, and having performed the service for ten years with great advantage to the country, and without one single censure from any department, I considered that I had established a claim upon the Government for consideration, and I felt confident that this contract would be continued to me as long as I wished to retain it; but some of my partners are more cautious men than I am, and when it became necessary last year to build two ships of 1,000 horse-power, I could not be surprised if they felt some hesitation in expending so large a sum, having within the previous three years expended in new ships 560,000*l.* Under these circumstances, I stated to the Government that an extension of the period of the contract would enable me to produce more powerful ships, which were required to compete with other steamers then coming on the line. If we do not perform the distance in as short a time as our opponents we lose the passengers, but the Government also lose the post-age, so that our interests are identical—we run the risk, by expending such a frightful sum of money, while the Government, without any additional advance, reap a certain benefit. The cost of our ships and our establishments at home and abroad amount to about a million of money. The Government admitted the justice of my claim, and were pleased to extend the period of the contract four years. I mention these circumstances, as it has been said that the Government were partial to me, whereas the advantages were all on the side of the Government.

114. Is there anything in your contract that would prevent a change of the port of embarkation if it were found desirable for the public interest?—Although the port which might be preferred may not be named in the contract, if, on public grounds, a change should be required, I would accede to it at once, as the Government would, I am sure, do what was right; if I were to show the Government that I was severely injured they would meet my case.

115. Supposing the Government compensated you for any loss experienced simply by a change in the port of embarkation, you would have no objections to make any change in that respect which the Government might require?—Certainly; I would be glad to meet their wishes in any way, being quite aware that the Government would deal fairly by me. I have been a contractor for nearly forty years, and have never had a difference with the Government.

116. Had you anything to do with the contracts for the transatlantic mail service before the introduction of steam?—There were no such contracts before. I have had the contract for about thirty years for the conveyance of the mails from Halifax to Bermuda and to the United States. I also had a contract with the Treasury nearly forty years ago for supplying a ship for the service of the province of Nova Scotia, and nearly thirty years ago for a similar vessel for Newfoundland. These services are now discontinued, and I have had many contracts for the army and navy.

117. The 40,000*l.* a-year which the Government used to pay was for the whole service?—Yes.

118. How often did they sail?—Only once a month. I have seen three of these packets at Halifax at once, one making 80 days', another 60, and another perhaps 30 days' passage. The amount of postage by these packets did not exceed 5,000*l.* a-year. I go four times as often, and the postage received is equal to the amount paid to me by the Government.

119. Does the transatlantic postage bring 140,000*l.* a-year?—Yes; and more. The American steamers will now divide the postage with our line.

120. That is, Collins's line?—There are three lines of American steam-packets supported by the American Government. One between New York and Liverpool; one between New York and Bremen, calling, each way, at Southampton with the mails; and one from New York to Havre, calling also at Southampton, delivering and receiving mails. These three lines are intended to keep up a weekly communication, but they have not yet done so with regularity. They receive from their Government 20,000*l.* a-year more than I receive.

121. Will you give the Commissioners your own opinion upon the first question which is referred to them for inquiry, as to the advantage of the establishment of a transatlantic packet station in Ireland?—I think there would be no advantage gained by the change, but many disadvantages, and that it cannot be carried out. In the first place, the freight is a very large item in our earnings; it would be lost to us, and would pass over to the American steam-ships.

122. Have you any objection to tell the Commissioners the amount of your freight?—I should have no objection to inform the Commissioners, for their *own* information. I have a return with me of the freight on each voyage for 1849 and 1850, from which the Commissioners will see that I am borne out in my statement, that it forms a large item; and as we have given notice of a reduction in the rate of freight, the quantity of goods will be greatly increased.

123. Can you state whether the goods consist mostly of large or of small packages, and whether the charge is much greater than by sailing traders?—The packages are of various sizes, perhaps a greater number of small packages than by sailing vessels. Although we charge a higher rate of freight than sailing ships, yet the difference of insurance between our ships and sailing ships, together with the interest of money saved by the shortness of the passage, pay the whole freight; for instance, the premium of insurance by an American line-ship may be about 25*s.*, by ours about 10*s*, making more than 100 per cent. difference, to which may be added the certainty and regularity of having small orders executed.

124. Does that apply to goods of ordinary kind, or is it only for valuable goods?—Heretofore we have chiefly taken valuable goods, but when the reduced rate of freight comes into operation, more bulky articles will be shipped by us.

125. In the article of freight, is the saving of time of very great importance?—Certainly;

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for instance, a merchant in New York finds that he is running short of some particular description of goods—he sends his order, and within one month from the date of the order he has the goods in his store. He saves premium and interest, and is enabled to keep up his assortment for the supply of his customers. It is not only a great convenience to the merchant in New York, but is doing incalculable good to the trade of this country.

126. Can you tell us where the goods chiefly come from that you ship at Liverpool?—British goods, chiefly from Manchester, Birmingham, Sheffield, Yorkshire, London, Glasgow, and foreign goods from Hull, Southampton, and Havre.

127. Do many goods come from Ireland?—Some from Belfast, but not of much amount.

128. Is there any other part of Ireland from which goods come to go by your vessels?—I think not; we get linens from Belfast.

129. How do they come from Belfast to Liverpool; is it by steam?—I think it is.

130. How are they sent from London?—By railway and canal.

131. How do you get them from Havre?—We have a branch line of steamers between Liverpool and Havre.

132. Suppose you removed the station to an Irish port, would you not still retain a considerable amount of that freight, which would in that case be forwarded to you by the channel steamers and by an Irish railway?—I think not; the American ships would take the whole freight. No man would subject his goods to be shipped and reshipped, and sent across the country by railway. These goods are always insured, and they are quite as liable to be damaged in transit by different railroads, and by crossing the channel, as they would be in crossing the Atlantic; and when on landing the goods are found to be damaged, it is difficult to ascertain when and where the injury took place; was it on the railway or crossing the channel, or on the Atlantic. I feel confident we should get no freight; the American steamers would get it all. Who would think of paying all the cost of transit over the channel to Ireland, if a steamer were ready at Liverpool to receive the goods.

133. That would not apply to Belfast?—Goods can be sent to Liverpool from Belfast with the same facility as they can be sent to any Irish port for shipment; but the quantity of freight from Ireland is so small, that I should not take it into account.

134. That is your impression, but do you know it to be a fact?—I know that Ireland furnishes a very small portion of the goods we carry.

135. Can you state that positively to be so?—Yes, I have taken pains to ascertain, and know it to be the case.

136. Then, is your sole objection to the removal of the packet station from Liverpool to an Irish port, that you would lose a considerable portion of the freight?—Certainly not; it is only one objection, there are many others. I should lose all the passengers; they would go by the American steamers. No person leaving London or Liverpool would cross the channel to go by railway with luggage, and perhaps wife and children, to embark at an Irish port, if he could go on board at Liverpool, avoiding the sea sickness of the channel and all the trouble and expenses of railroad, &c.

137. Would it not be an advantage to passengers to save a certain number of hours in the passage?—I do not think there would be any time saved; you cannot make all things fit together; you cannot cross the channel and jump into the railroad at once; there must always be loss of time in changing and transhipment.

138. Have you many passengers from Ireland?—Very few.

139. But you cannot say that of those who embark at Liverpool, there may not be many who come from Dublin or Belfast?—In all the passages I have made, I have met but very few Irish gentlemen; their occupations do not appear to take them abroad so much as the English and Scotch; but the great proportion of passengers are Americans and persons from the Continent.

140. Could not those two objections which you feel, namely, a diminution of the freight and a diminution of the passengers, be made up to you by some additional compensation given by the Government?—I do not think that I could possibly ask the Government to give me a sum adequate to the loss.

141. The demand you make upon the Government is founded upon a calculation of the amount that is required to pay all your expense with a reasonable profit, besides what you get from passengers and freight; but if the Government required you to make the passage from a port where you get neither passengers or freight, you would expect the Government to pay the whole expense of the passage?—If the Government required me to go from a port where I could get neither passengers or freight, I should ask the Government to make good the loss I had sustained in losing the passengers and freight.

142. Having gone across the Atlantic so often yourself, can you from your own experience and observation, as well as from the information of your captains, form a judgment whether, considering the description of the passengers who usually go, and their business, a saving of 12 hours would be of consequence to them?—I think not; and I feel confident, if I were to offer to pay all the expenses of crossing the channel and the railroad fare to the west of Ireland, that they would still prefer embarking at Liverpool.

143. Your belief is, that if the packet station were removed from Liverpool to the west of Ireland, you would have scarcely any passengers or freight, and that consequently your demand for compensation must be nearly the whole amount of expenses of your packets?—Yes.

144. Has it not occurred to you more than once to submit all the accounts of your packets to persons appointed by the Government to examine them?—It has.

145. Therefore, if compensation were to be given to you, would you not again submit your

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S. Cunard, Esq.

January 23, 1851

accounts, so that the Government might ascertain exactly the amount of loss you had sustained by the change?—I think we should be bound to show the loss we had sustained by the change.

146. So that the amount of compensation that was due could be ascertained with accuracy by persons appointed by the Government to do so?—If such a measure were proposed by the Government, we should have to show the loss we had sustained by the change.

147. In advocating the claims of Liverpool against an Irish port, are you speaking merely as a steam-packet owner and contractor for that particular service, or are you connected with other commercial enterprises in Liverpool, which give you a bias in favour of retaining your intercourse with that port?—I have not the slightest interest in Liverpool, nor has any person belonging to me, except my partner, who resides there to manage the steam-ship affairs; we have no other interest in Liverpool.

148. Have you entered into any engagement there either with regard to your ship-building operations, or in any other way, which would make it inconvenient to you to leave that place?—We have an establishment at Liverpool for our own engineering purposes, which cost a considerable sum, and we have a depôt for coals; these comprise our only local interest at Liverpool. It may not be out of place here to state that I originally selected Liverpool myself; it appeared to me to be the natural outlet to America, surrounded as it is by manufacturing districts.

149. The bulk of the capital invested in your adventure does not belong to Liverpool?—No part of the capital of our company belongs to Liverpool, with the exception of the managing partner at Liverpoool, who resides there for the purpose of attending to the business.

150. Are you aware what facilities there are for vessels going to Irish ports, for the maintenance and repair of the vessels?—I do not know of my own knowledge; but I understand there are no establishments suitable to such steamers as ours.

151. Have you ever occasion to repair in America?—We have occasionally had to do some repairs in America, but not to a great extent.

152. At what ports?—At Boston and New York, and at Halifax; our own engineers form a good staff, and can do many repairs themselves.

153. What proportion of the repairs are done in England, and what in America?—Our repairs are generally done in England and in Scotland.

154. Do the American packets chiefly repair in America?—Altogether, except such as may be required on arriving in England: the Americans have most extensive engineering establishments at Boston and New York, and at many other places.

155. If the Transatlantic Packet Station were removed to Ireland, in that case, would an establishment be formed at the Irish port so selected for those repairs, or would those repairs probably take place in America?—I think we could not carry on this great concern, unless we were in the neighbourhood of large engineering establishments, which could not be formed in Ireland easily; these establishments are of progressive growth. We should not depend upon repairs being done in America, more than we now do.

156. Would not the fact of a packet station being established there, occasioning a demand for such works, produce a supply to the necessary extent?—I do not think it would hastily, it might in time; but it would be many years before it could come to the perfection necessary to produce that which may be required for these large steam-ships.

157. Is it a peculiar business, or can it be connected with other great iron works, such as the construction of iron bridges and other works of that kind?—I think it is a business generally carried on by itself.

158. Those establishments must of course be kept fully employed?—Yes.

159. But at the same time, you have an establishment of your own?—Ours is a small establishment for the ordinary repairs. When we have any heavy work to do, we apply to large engineering establishments at Liverpool, or send the ship to the Clyde, which we do to replace boilers or do heavy repairs. We have done so two or three times, but we cannot always do so, and have to get the work done at Liverpool.

160. Could not a private establishment do the same repairs in an Irish port?—Certainly, if the establishment were equal to the work required.

161. If an Irish port were used as the transatlantic station for the embarkation of letters, you would still have to send on your vessels to the Clyde, for any very important repairs which they required?—Yes, for the replacement of boilers and other heavy repairs, if time admitted; if not, the repairs must be done without moving the ship, as we now do at Liverpool.

162. So that the only thing required at the Irish port would be temporary repairs?—We occasionally require to have heavy repairs done in Liverpool, when we have not time to send the ship to the Clyde.

163. Do you put your vessels into graving dock every time they come in?—Not every time, but very frequently.

164. How frequently have you occasion to put them into a graving dock?—That must depend upon circumstances; it is necessary very frequently to do something to the bottom of the ship

165. Do the graving docks that you put them into belong to the Corporation?—They do.

166. Your vessels always go into the wet docks?—Yes; they lie afloat, except when in the dry dock under repairs or examination.

167. Can you get into the basin at neap tides?—Yes, at high water, and we have to go into the stream occasionally two or three days before we depart.

168. But in spring tides you go out at once?—We always go out of dock a day before sailing and at high water.

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169. Then why do you not sail at fixed hours?—We cannot do so on account of the bar; we have to wait for the tide. I should like to explain the advantages that the people of Liverpool and the surrounding districts at present enjoy. In London and other distant places, the mails are made up on Friday night for transmission to America; but in Manchester and many other places they may be written on Saturday. The mail generally is closed at the Post Office about ten; up to that time the letters are sent to the Post Office; but we have a small house erected on the pier, and after the mail is closed, a clerk or two from the Post Office attend and receive all letters up to the moment that the steam tender goes off the last time, when this house is carried on board the tender, and the clerks continue to assort and arrange the letters until alongside of the ship, which is a great advantage to Liverpool, and it is the means of collecting a good deal of additional revenue.

170. Is not the consideration of the telegraph one argument in favour of establishing a packet station in Ireland, from the great economy of time which would attend the transmission of intelligence by that means?—It might be when connected between Holyhead and Dublin, but not until then.

171. Do you know whether the electric telegraph is much applied to commercial purposes at present?—I believe it is; I use it frequently.

172. Even before the electric telegraph is established across the channel, would there not be a saving of time by that means, inasmuch as you have only a passage of five hours to carry the message to a telegraph station on the opposite shore?—There is generally some time lost; the telegraph is frequently engaged; and you must have a special train in waiting. By this means some active individual might get on board the steamer with the latest important news, and turn it to account; but when we leave Liverpool we take the news for every one up to the last moment.

173. Supposing the vessel went from Galway or some other port in Ireland, the mail would of course be made up at Liverpool at the latest moment at which it could be sent from thence to Holyhead, and so across to Ireland; therefore, if the passage could be made in much less time from a western port in Ireland, would not the letters be much more forward by taking that course?—The time occupied in going from Liverpool to Holyhead, thence by steam to Dublin, and thence by rail to Galway, together with the delays necessarily attendant upon the frequent transhipments of mails, passengers, and luggage, would be quite equal to the distance that Galway is in advance. The London mail arrives at Liverpool at five o'clock in the morning, but it requires five or six hours to assort the letters and close the mail. The same delay must take place at Galway, and there would also be a delay with the Post Office at Holyhead. The American steamers starting from Liverpool would take letters 24 hours later. A steamer leaving Liverpool for America at the *same hour* with a mail forwarded *viâ* Holyhead and Galway, would be more forward on her way to America than the steamer taking that mail from Galway; the delay in transit would far exceed the time saved by the difference of speed on the railroad, beside all the cost and trouble.

174. But would not the other be in advance of her, supposing they started at the same hour?—If two steamers leave Liverpool and Galway at the same hour, the one from Galway will be about 260 miles in advance.

175. What is your opinion of Holyhead as a point of embarkation for America?—I do not see any particular objection to Holyhead as a place of call on the homeward passage, provided a safe pier is set apart for our use, which must not be otherwise occupied at any time, as our steamers come in as frequently at night as during the day, and the berth should be always free. But in going to America it would deprive us of the use of the northern passage, which is of very great consequence, and would frequently delay us more than 24 hours; formerly we did not use the north passage, but latterly we have seen great advantage, and use it constantly.

176. The only disadvantage would be in going outward by the northern passage?—That is certainly the great disadvantage with a south-west gale (and it is the prevailing wind); we can run north and along the Irish coast with an off-shore wind and smooth sea 300 miles before we could get 100 miles from Holyhead in a south-west gale, and the northern passage is actually the shortest.

177. Could you give the Commissioners a statement of the relative proportions of northern and southern passages during the last two years?—In 1849, outward passages 11; homeward, three. In 1850, outward 15, homeward, eight. I now hand a statement of the different periods at which the north passage was taken during the two years. We keep a chart of every separate voyage, with the course and distance of each day. I also hand in three of these charts.

178. What speed do you find that your new vessels average?—On some voyages they have gone at a speed of 12½ knots for the whole passage of 3,100 miles.

179. At what time of the year?—It has been done several times within six months.

180. At what speed do you expect your new vessels to go?—Perhaps a knot more.

181. Do you think it possible that a vessel could go across the Atlantic, home and out, at 15 miles an hour?—I think not. In a river in smooth water she could, but not across the Atlantic under ordinary circumstances.

182. In the course of your numerous voyages across the Atlantic you have seen a very heavy sea?—My passages have been mostly in the winter, and I have been in many heavy gales.

183. Do you think that a vessel could go against a heavy sea fifteen miles an hour?—I think it would be impossible.

184. But you do not profess to go twelve against a heavy sea?—No; but the shortest day's work we made, when I came home a few days ago, was 250 miles.

185. Did you ever have such a voyage going out?—I went out in the "Asia" last September,

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S. Cunard, Esq.
January 23, 1851.

and if it had not been for the delay off Halifax, by fog, which detained us fifteen hours off the harbour, we could have been in New York within ten days, a distance of 3,100 miles. I do not think the 15-mile ships alluded to would do the work with the same regularity that we have done it; we have never delayed one hour after the mail was on board, by night or by day, no matter what may have been the gale, or from what quarter, we have gone to sea.

186. Mr. Penn says, that he thinks he could get a vessel to go fifteen miles an hour provided the voyage were reduced to about 2,000 miles?—Mr. Penn is a very clever and ingenious man, but I think if he had crossed the Atlantic 50 times he would have experienced some weather in which his vessels would fall short of 15 knots. Steamers may certainly be worked to a very great pressure, but the cost of working, and wear and tear, must be in proportion. The Bansbee has, I believe, gone 17 miles an hour, but I suppose she had only a few hours' coal on board and the letters.

187. Mr. Penn states that she would be able to carry passengers?—Not many, if she had to go any distance, with additional coal, water, luggage, &c.

188. Whatever the progress of improvement may be, you do not see your way to such a result at present?—I do not.

189. In crossing the Atlantic, have you ever met so heavy a sea that you have not been able to put the vessel to her full force?—I have never known one of the large steamers laid-to. Once, in a small one, the sea was so high that the ship was brought-to.

190. Have you never washed away your paddle-boxes?—No, we have never lost our paddle-boxes.

191. You must often have considered the sort of vessel that would make the passage in the shortest time; has it not occurred to you that a vessel might be built which would go at a greater average speed in the voyage if she stopped at the west coast of Ireland than if she made the whole voyage from America to Liverpool?—The less the distance the greater the speed, provided speed be the only object to be attained.

192. Therefore, upon that general principle, the west coast of Ireland would have the advantage?—Yes; with shorter distances greater speed may be attained.

193. Can you give the Commissioners an idea of what increase of speed you would be enabled to get by the substitution of the west coast of Ireland for the west coast of England as the point of embarkation and arrival?—If a steamer were intended for the conveyance of letters and a few passengers only, I think she might be constructed so as to increase her speed a knot, or perhaps a knot and a half per hour; she would only carry sufficient coal for the voyage, and would soon become light; the working expenses would be great, and the returns small, but if constructed to carry cargo, and for general purposes, I do not think much, if any, additional speed could be obtained. In our large ships we shall carry from 800 to 1000 tons of goods, and as this is a fixed weight the daily consumption of coal does not make as much difference in the speed as the coal consumed in the vessel without cargo, and the daily speed will be more increased than the ship with cargo.

194. But the shorter passage would enable you to take a larger amount of goods in the same steamer? If the steamers were of the same capacity, the one going the shortest distance should take the greatest quantity of cargo.

195. As you consume the coal, does not that alter the condition of the vessel?—There is an indicator on board by which the trim of the vessel is preserved.

196. Does not the ship get lighter, and does not that affect the paddles?—It does; but the lighter she becomes the faster she goes.

197. She never gets inconveniently light?—We take care to keep enough coal on board to make her safe; we have never once got out of coal.

198. Do you take coal only for one voyage?—We take coal at each port.

199. The voyage from a western port of Ireland to New York would be about 300 miles less out of 3,000 than from Liverpool; can you say generally whether the expense of the voyage would be reduced in the same proportion?—The expenditure of coal would be less in that proportion, but there are other fixed expenses on a voyage which would not differ materially even if the voyage were increased 20 or 24 hours.

200. You are a Nova Scotian, and you have great interest there; you are aware that there is a movement there for having a railroad from New York to Whitehaven, to start the packets from thence; do you apprehend that that scheme is ever likely to be carried out, of running a railway to Whitehaven for the sake of making it a packet station?—I say it cannot be done. Whitehaven was surveyed by Captain Owen in August or September, it was then free from ice, but it is closed by ice during the winter, and from its situation, the ice from the gulf and the coast of Newfoundland is driven in by the east wind, and frequently for two months in the spring it cannot be approached at all.

201. Is it closed by the frost for a longer period than Halifax?—Yes; in the spring of the year.

202. At the time of the survey by Captain Owen, was it not a remark of his that it was never frozen up?—I believe he did so state it, but he was there in the summer and must have been misinformed.

203. That would be conclusive against using that for a packet station?—Quite conclusive.

204. Do you run to Halifax in the winter?—Yes; we run to Halifax during the winter, and although it is occasionally frozen we have never been prevented getting into the harbour?

205. Do the American packets take many goods from Liverpool?—Yes, the same as we do; and if we were to go from a port in Ireland they would take double the quantity, and we should take none.

206. What are the risks and delays attendant upon the Irish Channel navigation, which would be avoided by going to a western port of Ireland?—The risks and dangers are greater

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S. Cunard, Esq.
January 23, 1851.

on the west coast than in the Channel; for instance, no one would venture to run into port in a south-west gale in thick weather or at night; but in the Channel we have found no difficulty with ordinary care, and we go into port as often at night as during the day.

207. There is also chance of collision with other vessels?—We have not had any collision in the Channel.

208. Do you reduce the speed in running up the Channel?—If the weather is thick we do, and sound as we come along, but if it is fine clear weather we do not.

209. Have you ever had a collision with other vessels?—We had one very bad one last year.

210. Where was that?—It was about 700 miles west of Cape Clear.

211. Have you ever had collision in the Channel?—I do not think we have.

212. Have you ever been detained much in the Channel after passing Cape Clear?—No.

213. Have you ever been detained there as long as you have been off Halifax?—No; we have never been detained much, when the weather is thick we slacken the speed and sound; the coast is well lighted, and we get along without difficulty; we have frequently been detained 24 and 30 hours off Halifax.

214. Taking into consideration the few occasions when you have to reduce the speed, is the general average of your speed much affected by the run up and down the Channel?—No; if the weather is thick we are only a little more cautious in running and sounding.

215. Taking into consideration the smooth water you have in the Channel, would the average speed be as great?—Yes; we have done the distance in fine weather more rapidly than any other part of the voyage.

216. Then taking all circumstances into consideration, you think that the speed is greater between Cape Clear and Liverpool than it is between the coast of America and Cape Clear?—In fine weather you are sheltered, and no sea, and the ship makes more rapid progress than on the ocean. If the harbours on the west coast of Ireland were approachable at all times and seasons, they would be of no use to us until dry docks and wet docks are constructed of the largest size; there is only one dock in Liverpool sufficiently large for the American steamers. These docks would cost an enormous sum in construction, and could only be maintained by a very extended commerce. Engineering establishments upon an equally large scale must be formed before the mail steamers could resort to those harbours. It will take a great many years before these measures can be carried out, but from the best information I have been able to obtain, and I have taken great pains to ascertain, I find that it would be impossible to enter these harbours in a south-west gale at night, in thick weather, with these large ships, the present steamers drawing about 21 feet of water, and those in the course of construction will draw about 22 feet.

Captain John Washington, R.N., F.R.S., examined.

Capt. Washington, R.N., F.R.S.
January 23, 1851.

217. You are aware of the objects of our inquiry, namely, to inquire first as to the harbours in Ireland best adapted for a transatlantic packet station; and secondly, as to the advantages or disadvantages of adopting a harbour in Ireland for a packet station, having reference to the trade and the general interests of the empire. Will you have the goodness to give the Commissioners any information in your power as to the first head of inquiry?—I should wish to draw a marked distinction in speaking of different ports; some that might be fit for a port of call would not be fit for permanent packet stations, and *vice versâ*.

218. You are well acquainted with the harbours on the south-west coast of Ireland?—I have steamed in a Government steamer into the harbours of Cork, Kinsale, Crookhaven, Berehaven, and Bantry, along the whole of the south and south-west coast of Ireland, and into Valentia. I have also examined the Shannon at Scattery Road, Tarbert, Foynes, and Limerick; as well as the port of Galway, embarking in boats or steamers on the spot.

219. Have you paid any attention to the question, whether it is desirable that there should be a packet station established in Ireland for transatlantic purposes, or have you confined your attention to the consideration of which harbour would be the best for the purpose, assuming the other proposition to be granted?—Upon the general question I may say, that however desirous I am, in common with most Englishmen, to see traffic and industry created in Ireland, and her noble harbours turned to account, I do not think, at present, it would be politic to transfer the permanent packet station from Liverpool to any port in Ireland.

220. Will you state your reasons for that opinion?—I think that such a measure would have the effect of driving passengers into the American steamers that run direct; and that passengers would not be at the trouble and inconvenience of crossing from Holyhead to Dublin, and then re-embarking at any western point.

221. You do not think the inconvenience of the transhipment would be counterbalanced by the saving of a few hours on the whole journey?—I think not with respect to general passengers, and still less with respect to goods. But I think, undoubtedly, it would be very desirable to have a port of call on the south-west coast of Ireland, for the purpose of taking up the mails, receiving telegraphic messages at the latest minute, and any stray passengers.

222. Do you refer to any particular port?—In that case I think Cork or Crookhaven would be the best as a port of call. Crookhaven would be very suitable, if the water is sufficiently deep; but there is some little doubt on that point, inasmuch as although the published Admiralty Survey of 1817 shows ample depth of water, the recent survey of 1848 barely shows sufficient water; the harbour, apparently from neglect, has greatly filled up. It could, however, be easily deepened.

223. Have you been within Long Island?—I have never been within it. I am aware of the deep water in it, and I know that Long Island Sound is an admirable Harbour of Refuge.

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Capt. Washington, R.N., F.R.S.

January 23, 1851.

224. That is not very far from Crookhaven?—Only seven miles to the eastern end, where is the best anchorage.

225. Have you ever calculated what delay there would be in the passage, in consequence of the vessel being obliged to touch, between Liverpool and the United States, at a port of call?—I think four hours is the outside, in the way in which it might be done at Cork; and two hours and a half at Crookhaven (being only five miles out of the course, including going and returning), if the system were properly organized.

226. That would be the length of time occupied in going in and going out again?—Yes, including two hours stoppage to receive passengers and mails.

227. Would not there be a little uncertainty about the period of arriving, according to the state of the weather?—There might be an hour or two, but not more, on the outward passage.

228. In the case of a strong south-west wind, would it not make a greater difference than that?—That would be as well known at Cork as at Liverpool, and they would allow for it accordingly.

229. But the mails must start to be at Cork at a particular time?—Yes.

230. If they are to take up the mail at Cork at a certain hour, must they not sail from Liverpool at such a time as to allow more than the ordinary time required for the voyage, in order to be sure of being at the port of call in good time?—It would be liable to that uncertainty; but in sailing from a tidal harbour, such as Liverpool, there must be always an uncertainty, varying from one to six hours.

231. Are you aware that the difference of time between the mail starting from Holyhead, direct by sea, or going across the Irish Channel, and by railway to Cork, would only be about three hours and a half?—I believe the passage from Liverpool to Cork would be about 24 hours by steamer.

232. Take it from Holyhead?—That would be 60 miles, or nearly six hours, less.

233. And the time from Holyhead by steamer, would be about three hours and a half more than by going through Ireland?—Probably it might not be more in fine weather.

234. Is it not the fact, that some of the large steamers now frequently, in consequence of the prevailing winds, take the northern passage?—A few do in going out, and occasionally, I understand, in coming home.

235. Would not there be inconvenience in their being precluded from taking that course, by having to call at Cork?—There would, to a certain extent. If obliged to call at Cork or Crookhaven, they would be still more careful to ensure coming to the southward. Those that have taken the northern passage, I conceive, have been out of their reckoning, in the run across the Atlantic.

236. But they would be precluded from doing that in any case?—Yes, it would be a disadvantage so far.

237. Supposing the Commissioners were to adopt a different view from that which you have expressed, and were to think it expedient that a permanent packet station should be established on the coast of Ireland, which is the harbour which, in that case, you would prefer?—Cork, at present.

238. Will you be so good as to state your reasons for preferring Cork to any other?—I think it is a better harbour to make in coming from America, and it is the only harbour at present ready for receiving packets of the size of the transatlantic steamers. If it were proposed to make a very large outlay in building breakwaters or piers, and erecting whatever might be necessary for large steamers, other places might answer also; but at present Cork I consider as a perfect harbour, ready to be used at once.

239. But there is no dock at Cork for a large steamer?—No, nor is there one large enough in any port in Ireland.

240. There is neither dock nor wharf?—A sufficient timber-wharf for landing and embarking could easily be made at Monkstown or at Passage; for there you are close to deep water, and it would be a very slight expense. Whereas at Galway, at Tarbert, or at Berehaven, it would be much more expensive.

241. You are aware that they are making a dock at Cork, Brown's dock?—Yes; but that is a graving-dock, not a floating-dock, which must be very much enlarged and deepened indeed, before it can be used for repairing an ocean steamer.

242. Do you know anything about Haulbowline?—Yes, I know it very well; it offers an admirable site for a graving-dock, at a moderate expense, on the Spit Bank, immediately to the eastward of the island.

243. Could a steamer, drawing 19½ feet water, go alongside the pier there?—Yes, even at low water; that is at the distance of a "brow" or gangboard, abreast the coal-store.

244. She could lie there at springs and neaps?—Yes; the United States frigate "Macedonian" lay there and discharged her charity cargo of meal, and I believe she drew 21 feet water.

245. There is a good tide at Cork?—Yes, there is a good range of tide; 12½ feet on springs, and it rises to 9¼ feet on neaps.

246. What would be your objection to Galway?—At present there is no harbour at Galway, only a roadstead, and no sufficient floating-dock. The dock at Galway has, or had when I was there in 1845, only 13 feet water over the bar at its entrance; and I am not aware that it has more now. It is a dock of about seven acres, and had then only 14 feet depth of water inside; whereas the ocean steamers would require at least 20 feet, or perhaps more. They could not possibly load in the present floating-dock at Galway.

247. Could not they get down the channel from Galway if they were loaded?—No; they could not get over the bar at spring tides, unless it has been recently deepened some feet, as in 1845 there was a depth of only 13 feet water over it; nor could they get over the flat, which lies between the entrance to the dock and the roadstead, unless at high-water spring tides, and then not without danger. Galway roadstead is not fit for a vessel to lie in and

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embark goods and passengers. It would require a breakwater to be run out from the south-eastern extremity of Mutton Island, at least 500 yards in length, to afford sufficient shelter in Galway Road.

248. It has been stated by a deputation from Galway that they propose to run a breakwater out from the south-east point of Mutton Island, 2,000 feet, and to fill up between Mutton Island and the main?—I was not aware of that, but it is just what is required; and I had already sketched such a breakwater upon the Admiralty plan of Galway, only I would recommend that it should be detached from Mutton Island, and connected by a bridge or platform on piles, so that the stream of tide and wash of the sea might go through, to prevent the roadstead filling up. But such a breakwater, I should think, would cost 150,000*l.*, at least. I do not know any breakwater in this country that has cost less than 80*l.* per lineal foot. The Plymouth Breakwater has already cost more than 250*l.* per lineal foot, and will cost 300*l.* per foot when finished. The Galway Breakwater, of 2,000 feet long, would go out into 30 feet depth at low water, and 46 feet at high water of ordinary springs, and allowing four feet for height of the quay above the level of high water (and for equinoctial springs), it would require to be 50 feet deep at its outer end. If built for 150,000*l.* it will do great credit to the engineer.

249. Supposing that breakwater were finished, would that remove all your objections to Galway as a harbour for this purpose?—Entirely; provided the island were connected with the main by a causeway to Fair Hill, which causeway would be 2,400 feet long, and some 10 feet average height, through a portion of which also the tide should be allowed to pass. Also if a sufficient graving dock were constructed for a large steamer to repair in. Galway has the advantage of being only 2,184 nautical miles from Halifax by the shortest route, and this is a strong point in its favour.

250. Can you say anything about the comparative facility of making one harbour or another?—Nothing can be more facile than to make Galway Bay from seaward; it has an open, bold entrance, about 12 miles wide. By day there are the Arran Islands, 500 feet high, the finest landmark to run for in the world, and the entrance of the bay is on a parallel of latitude, which is the very line we always desire to run for.

251. Is there any difficulty about lights?—The light on the top of the Arran Islands would have to be lowered. It stands at an elevation of 506 feet above the mean level of the sea, and enjoys the unenviable notoriety of being the highest light in the United Kingdom, and also of being one of the slowest revolvers (once in three minutes) of any light on our coasts, both of which defects would have to be remedied.

252. Is it very defective to have the light very high?—Yes, on account of fogs. Although I am told fogs are not so prevalent on the west coast of Ireland, about Galway, as they are on the south coast of Ireland and in England, still it is very liable to be obscured by fog.

253. Are you aware that they are going to erect a light on each end of the Arran Islands?—I was not aware of it; it is high time that it was done, and I am very glad to hear it.

254. What is your opinion of the entrance of the Shannon from the Atlantic?—The entrance of the Shannon is very good, and easily made. It is nearly nine miles wide, may be run for on a parallel of latitude, and is well marked by the bold headland of Kerry Head, 710 feet high to the south, and Loop Head, 270 feet high to the north, surmounted by a brilliant fixed light by night. A ship may run without difficulty 20 miles up to Tarbert, or even nine miles beyond, up to Foynes.

255. And the tides in the Shannon are of no consequence to a steamer?—No; not to a powerful transatlantic steamer, provided she take care to avoid the Kilstefeen bank, and pay due attention to the admirable Admiralty charts of the Shannon, made by Commander Wolfe and Lieut. Church, R.N., in 1841.

256. Is Tarbert the spot on the Shannon that you would prefer?—Tarbert is the highest up roadstead; Scattery Road is on the north side of the river. Looking forward to a railway, Tarbert would be the nearest to Limerick and Dublin. It is, I believe, within about 30 miles of Limerick.

257. What are the other points in the Shannon that might possibly be adopted?—Scattery is the great roadstead on the north side, close to Kilrush, but it is what sailors term a wild place.

258. What do you say to Foynes?—Once inside the island, Foynes is an admirable little harbour, and so sheltered from winds as to be equal to a floating dock of 30 acres in extent, with depth for the largest steamers, at low water of spring tides; but a strong tide runs through the harbour. The western entrance, however, has but 22 feet depth at low water of ordinary spring tides, and is only 120 yards wide, and unless it was dredged it would not be prudent to run a large steamer in, blowing hard: a very little increase of depth would be sufficient, but that little is essential to safety. The landing pier now constructing has only 10 feet depth at the pier head, and will not be sufficient to lay the steamer alongside of, for I hold it to be a *sine quâ non* in every packet harbour that passengers should walk on board and on shore. At Barneen Point, on Foynes Island, nature seems to have pointed out a spot for a graving dock, and excellent limestone for building is in abundance. Foynes is only about 23 miles from Limerick, to which city the railway is open, and 2,184 miles from Halifax, or exactly the same distance as Galway. Limerick would be out of the question. No transatlantic steamer could go within 15 miles of Limerick at low water; but as the tide rises 19 feet there on springs, they might, as they do now at Liverpool, go up after half tide, if there were a floating dock ready to receive them. They could not lie afloat in the pool. A dock of eight acres was begun some three years since at Limerick, but I do not know in what state of forwardness it is. I understand the entrance was to be 50 feet wide and 22 feet deep at high-water springs over the sill; this would not do for a large steamer to enter or leave at neap tides. The navigation of the upper part of the Shannon is intricate for a large steamer.

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Capt. Washington, R.N., F.R.S.

January 23, 1851.

259. Do you know anything of Berehaven?—Yes; I have steamed into Berehaven in one of Her Majesty's steamers. It is an admirable harbour.

260. Is there any difficulty in making it?—No difficulty; it is rather what sailors term "a blind harbour;" but a small tower erected, or rather a light-ship placed at the western entrance, in order to distinguish it, would readily answer the purpose. As a packet station it would require a landing place to be erected; nor is there any graving dock. But as a capacious natural harbour, with ample depth of water and two entrances, it will not yield to any port in Ireland. It lies, too, in a bold, advanced position, only 2,177 miles from Halifax, and is *the* harbour of Ireland *par excellence*. The difficulty is to reach it by railroad, unless at a heavy expense, owing to the rugged nature of the country. Mr. Nixon, C.E., estimates the 64 miles of railway from Bandon to Berehaven at 642,750*l*.

261. Supposing that Galway were improved as you think it ought to be, and might be, would you prefer running for Galway to the Shannon?—No; I would as soon run for the one as the other. But I think it of importance to remark, and I beg most earnestly to impress it on the attention of the Commission, that in the event of a packet station being established in the Shannon, the lights on the west coast of Ireland require to be altered in position, and to be increased in number. The lights are too few on the south-western coast. Except the light on the Skelligs, there is none between Loop Head and Cape Clear, and there are some dangerous outlying rocks.

262. There is a light upon the Loop Head?—Yes; but from the Loop Head to the Skelligs, a distance of about 70 miles, and from the Skelligs to Capo Clear, 55 miles, there is no coast light. The Foze Rock, at the outer extreme of the Blaskets, or Tiraught, and the Bull, would be the right places for lights, and they would divide the coast into nearly equal distances. The Skelligs light would, of course, become unnecessary.

263. What is your opinion of Valentia?—An excellent harbour when once inside, with the advantage of being the most western port in Ireland, and only 2,145 miles from Halifax; but it is a difficult place to make. I should be sorry to have to run a steamer into Valentia in a gale from the westward, as the entrance is extremely narrow, and directly from the ocean. The whole width of the northern entrance, which is the chief entrance into Valentia harbour, measured on the recent Admiralty plan, at low water of spring tides (within the four fathom line), is at present 450 feet, or little more than half the width of the entrance into the artificial harbour of Kingstown. But when once inside it is a very good harbour, and, as before mentioned, is at an extreme salient point upon the west coast. If used as a packet station it would require a landing pier and graving dock to be constructed. The nearest railroad at present is, I believe, at Mallow, about 70 miles distant.

264. Do you know Dingle Bay?—Dingle Bay has not a very good reputation; the upper end, by Killorglin, is full of shoals. Berehaven, as I said before, is an admirable harbour; but all the harbours on the south-west coast of Ireland are in the same situation with respect to the want of a graving dock and landing pier. At Tarbert it would require a landing pier of at least 500 yards in length, either from Grogan Point, E. by S. (true), or Ballydonegan Point, N.N.W. (true) better. Cook's Point, where the present pier is, is quite unsuitable for the purpose, it is in a corner scoured by the sweep of the ebb, and the crooked eddies of the flood-tide, and is an unmanageable spot to take a large steamer to.

265. At Foynes a landing would be more easily made?—It would be much more easily made. There is much deeper water close to the shore; I believe a short pier is built there.

266. Do you know anything about the trade of Belfast?—Nothing further than that it is very large, and increasing every year. Belfast is the most enterprising and the most prosperous port in Ireland. The trustees have laid out 400,000*l*. in improvements within the last 10 years.

267.—Do you know whether they have at Belfast any vessels trading with goods to America?—I do not know. I only know that the tonnage that entered the port and cleared out in 1850 was 624,113 tons, and of this traffic, I conclude, some portion was with the United States. I understand, also, that nearly all the plain and coloured gingham muslins which are sold in Glasgow, as well as those made for Carlisle houses, are manufactured in the country around Belfast, and in the counties of Antrim and Derry.

268. Upon the whole you would recommend that there should be a Port of Call for the mails, either at Cork or at Crookhaven?—Yes, certainly; Cork is quite ready at the present moment; you might begin to call at Cork next month. Until the landing jetty is built I would moor a hulk in the harbour at Cove, and have a small river steamer to go up to Monkstown or to Passage, in connexion with the railway. That would save the necessity of the large steamers running the gauntlet through the numerous vessels which, in winter time, crowd the harbour, at times amounting to some hundreds. There would be very great danger in going up to Passage at more than half speed, and it would be imperative to have some regulation to oblige vessels to leave a clear passage on the south side for steamers to go up to Passage either by night or by day.

269. Do not such regulations exist now?—Only immediately opposite the Admiral's house, I believe. I rather think they are a dead letter.

270. Would you bring the vessel to Monkstown?—Rather than run through the gorge up to Passage; but I should much prefer to moor a hulk in the harbour at Cove, to the south-east of Spike Island, out of the fair-way and out of the tide. But if the large steamer is to go up alongside a jetty in connexion with the railway, then Monkstown would be the point, supposing the railway extended thither. A graving dock, also, eventually should be constructed at Haulbowline. On the Spit Bank is the very place for a dock. A graving dock is much wanted there for the Queen's service, and I see no reason why it should not serve for both purposes; it would be a great benefit to both services.

271. Is there anything else which you wish to suggest with reference to the object of our

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inquiry?—I would merely repeat my decided opinion that a port of call in Ireland is extremely desirable. I consider that Cork at this moment offers every facility for such a purpose; a steamer need not go more than 18 miles out of her course, including going and returning, even if she went up to Passage, and the delay, I consider, need not exceed four hours, if so much. In the event of a railway being carried to Crookhaven (only 50 miles from Bandon, to which place it is already made), Crookhaven would be still better, as 60 miles in advance of Cork and only 2,170 miles from Halifax, to which latter place, sooner or later, a railway will be made from New York; and thus the mails might cross the Atlantic in seven days. The Irish Great Southern and Western Railway offers great facilities for this desirable consummation, and the enterprise and skill with which that admirable undertaking has been carried out entitles it to the privilege of conveying the mails and telegraphic messages (for of course they will lay down electric wires) to the extreme point of departure, be it Cork or be it Crookhaven.

Capt. Washington, R.N., F.R.S.

January 23, 1851.

[*The Witness withdrew.*]

SATURDAY, 25th January, 1851.

The Right Hon. the Earl GRANVILLE in the Chair.

Capt. George Evans, R.N., examined.

Capt. G. Evans, R.N.

January 25, 1851.

272. Will you have the goodness to state what opportunities you have had of giving the Commissioners information with regard to the eligibility of any Irish port for a Transatlantic Packet Station?—When employed on the Post Office Inquiry Commission, in 1835, I was ordered by the Government to inspect the western harbours of Ireland with reference to their eligibility as to packet stations and other purposes.

273. Did you occupy yourself solely with the comparative merits of the different ports, or did you go into the question, whether it was desirable to have a Transatlantic Packet Station in Ireland with regard to the general interests of the empire?—Being at that time engaged in the Post Office Inquiry Commission, I rather looked upon the question in both lights. First, with respect to the comparative value of the ports; and next, as to the prudence of having a packet station on the west coast of Ireland.

274. What were the conclusions you came to?—After examining the harbours from Black Sod Bay on the north down to Cork, I was of opinion that Berehaven, in Bantry Bay, possessed more advantages for a packet station, and for the other purposes alluded to in my orders, than any of the harbours I had seen.

275. You know it well, of course?—Yes; I examined it minutely.

276. Is Berehaven a very fine harbour?—It is a very fine harbour; there is no harbour anywhere I know of in Ireland equal to it. It has two entrances. I believe one of the Commissioners has been at anchor there before my time, and knows it well.

277. With reference to the object of postal communication are you of opinion that Berehaven, in Bantry Bay, is the best of the Irish ports?—I am decidedly of opinion that it is the best, taking into consideration only the harbour; but I may be allowed to explain that in carrying out the Post Office arrangements it is possible that, in the present state of Ireland, a harbour not so well situated as Berehaven might be more desirable, in consequence of the facility with which contracts might be obtained from its being a great commercial port, and from its having everything ready to commence with, as a station, without incurring the expense which might be necessary in going to another port that may be better situated.

278. Berehaven has no conveniences for a packet station at present?—No. It is quite in a state of nature, unfortunately, like others in Ireland.

279. No wharf in deep water?—There is plenty of deep water, and there is a natural wharf on the island. It would not be very expensive to construct a landing-pier, but everything must have to begin from the beginning, though the natural advantages are great.

280. How do they ship the copper ore from there?—That is lower down, where the mines are, to the westward.

281. And the vessels that go for the ore are small vessels?—Small sloops, I believe.

282. Have you considered the means of reaching that harbour by land from Dublin?—I have.

283. Are you aware of Berehaven; what the facilities or difficulties would be of forming a railway to Berehaven?—Yes; I am aware of those.

284. Are you aware that there is a difference of opinion upon that subject?—Yes; at the time I was there the greatest difficulty was thrown in the way, so that I proposed that the packets should run up to Bantry, inside of Whiddy Island, where a fleet might anchor. That is above Glengariff. The difficulty then was in taking the railway down from thence to Berehaven. That difficulty, I believe, the engineers now think nothing of, but at the time I made my report it was apparently so great that I stated that the large steamers might come up inside of Whiddy Island, where there is plenty of water, and well sheltered anchorage close to where the railway could come to.

285. Had you crossed the Atlantic at that time?—I had frequently, and also just crossed in command of one of Her Majesty's steamers (the first that crossed the Atlantic), "The Rhadamanthus." The proposal to send the large steamers up to Whiddy Island was made in consequence of the difficulty that was thrown in the way of making a railway to Berehaven, which it appears now is easy enough.

286. What was the facility of making Berehaven from the Atlantic as compared with other places?—I considered it the easiest mode from its position, and when you get in Bantry Bay there is not a rock all the way up to Whiddy Island anchorage.

287. Could you make it in the night?—Very easily, if proper lights were erected.

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Capt. G. Evans, R.N.

January 25, 1851.

288. There are no lights to lead you into Berehaven at present?—Yes; hut two more lights would require to he placed hesides the one at the eastern entrance of the harhour's mouth, which has been erected since my report in 1835.

289. In running in for Berehaven at night what light would yon steer for?—There were two lights when I was there (that was 15 years ago), outside at the Skelligs, and they were talking of putting one at the western entrance of Bantry Bay.

290. Would your soundings he of any service to you in thick weather in running into Berehaven? They would be of service in thick weather, but I should prefer, as a sailor, to run for a point of land. You can run with greater security for the southernmost point than you can run for the centre of an island. If I could get anything like a latitude, day or night, I could run safely for a southern point, even without knowing my longitude well.

291. But you would take the precaution of sounding?—Yes.

292. Would the sounding be any guide to you in making for Berehaven?—I think there has been a shelving bank discovered since I was off there. It has heen surveyed minutely since, and those soundings are put down very accurately, hut they do not appear to me to be of any great use to the navigator.

293. Are you aware whetber soundings can be taken which would facilitate the entrance of any harhour on the west coast of Ireland?—I havo heard that since I was there they have discovered fishing hanks off several of the harbours on the west coast of Ireland, hut the difference of soundings appears, by the chart, to be very small in a long distance.

294. But still there may be great intervals between those hanks and the harhours themselves; but can you make soundings on that coast as you do in entering the Channel?—No; tbere are no soundings off the coast of Ireland equal in regularity and certainty to those approaching tho English Channel. Our soundings are so correct in coming into the English channel that I have heen ten days without an observation of any sort, and yet I have hit upon the land by means of the lead pretty accurately.

295. Which you have not done upon the coast of Ireland?—No; the soundings off the west coast of Ireland can afford but little assistance, but the land is high and easily made.

296. Do you know Galway?—Yes; I examined Galway.

297. Do you consider that Galway is a better port than the Shannon? Is it better to make or safer to run for?—I should think that for making or running into they would be very nearly the same. If you get inside the Shannon you can either go into Carrigaholt or haul up to the southward, towards Tarhert, or anchor under the lee of Scattery Island, or in Scattery Roads.

298. You are aware of the races?—Yes; particularly Tarbert race.

299. They are not of much use with regard to steamers?—They do not affect steam-vessels anything like so much as they do sailing-vessels.

300. If you ran for Galway, what land should you make?—I should try and make the Arran Islands.

301. Have you frequently run into Galway Bay?—Not frequently; I bave heen on the west coast, hut I was too young then to he ahle to give any opinion from my observations at that time.

302. Did you ever run in a gale of wind into Galway Bay?—Never; hut when I was sent to examine all these harbours in Ireland, I never attempted it, except during a gale of wind, and spring tides.

303. What was the effect of a gale of wind in Galway Bay?—In Galway Bay there is a very heavy swell, the sea breaking in, so that I recommended them to make a breakwater off Mutton Island, and to connect Mutton Island with the main, so as to make shelter for shipping inside, or else I do not think any ship in a sonth-west gale could run into it with safety. There is no shelter whatever.

304. Is there any danger in running for Galway?—No; it is a broad open bay. There is also a good bay to the north; Birterbuy Bay; hut it has some dangerous rocks outside of it.

305. Had you any communication with the people of Galway when you were there, as to making this breakwater which you recommended?—My ohject was to examine all those harhonrs without the people knowing who or what I was, that it might not be said afterwards that I had heen influenced hy any party whatever. I had very little communication, therefore, except with the Coast Guard, who were under my orders; hut I had reason to know, from seeing them in the newspapers, that my reports were afterwards sent by the Government to Ireland, and that the people there generally approved of them, and thought there was as much said of each harhonr as could properly be said.

306. In your report did you mention that it would he desirahle to run a hreakwater from Mutton Island, and to fill np hetween Mutton Island and the main?—Yes, and the facility for doing it. It was the first thing that I ohserved when I went. The memhers for Galway afterwards called upon me in London, and said that they thought my report a very fair one.

307. Are you acqnainted with Valentia?—Yes, I examined it very minutely.

308. Would you run for that harbour in a hreeze?—No, not with vessels of the size of the present transatlantic steamers, the sea breaks right across it. It is only a cable's length wide, and you cannot make out the entrance, unless you get good marks upon the shore.

309. Did you ever try the other entrance?—In the other entrance, when you get well in there is only about 7 or 8 feet water; it would all have to he excavated. The boatmen I employed tried to take me in, hut I sounded myself, and sbowed them that there was no more than 8 feet water there.

310. Do you know Dingle Bay, near Valentia?—I never examined Dingle Bay, hecause the harhour would have to be made there.

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311. Do you know anything of Crookhaven?—I was not ordered to examine that; but it is too small, and its entrance is badly situated.

312. Or Long Island?—No; I was not ordered to examine that There were particular harbours mentioned in my instructions.

313. Do you know the Shannon well?—Yes, I know it well all the way up to Limerick. You cannot go much above Foynes Island in the Shannon, until tide time, because there is a reef of rocks there.

314. What is the best point in the Shannon for the harbour?—The best point for a packet station would be the Carrigaholt roadstead; but for a railway terminus and station, up somewhere near Tarbert, or if you had a railway on the Clare side, there is very good anchorage on the opposite side in Labashida Bay.

315. You know Foynes?—Yes; Foynes Island is higher up still than Tarbert.

316. Were you ever at Foynes?—Yes.

317. What do you think of it as a packet station?—It would be a long way too far up the river; packet stations should be as near the sea coast as possible.

318. Is there any harbour there?—It is all harbour; you may anchor anywhere there in the river.

319. Is there any island there?—There is Foynes Island, with a passage inside of it, but shallow.

320. They are out of the tide there?—Yes.

321 Do you think there is greater facility for making a packet station at Foyns, than at Berehaven?—No; putting out of question the position of it, which, as I have just stated to the Commissioners, is too far in the centre of the island and too far up for a packet station. If the packets were to go there, they could got but few passengers and small cargoes either one way or the other. If you want the mails conveyed by contract steamers, I fear that at present you must make the Irish port only a port of call, and let the vessels go on with their passengers and cargo to their destination in England (and for this object, a southern port can alone answer), or else you must start a company expressly for mail purposes from Ireland.

322. Then when you talk of a packet station in Ireland, you mean a port of call, and not a port of departure for the packets?—Exactly, for the present; just as Falmouth was until lately. The vessels went to Southampton, and took in and discharged their cargoes and passengers, and they were obliged to call at Falmouth on a particular day for the mails, and take them on board.

323 What are the objections which you conceive to exist against making any one of those harbours in Ireland the point of departure for the American packets?—The only objections to making them the sole point of departure at present would be the difficulty of getting contracts. As far as the mails are concerned, it would be advantageous; and as far as the passengers that go to and from Ireland are concerned, it would be very advantageous to them, and highly so to Ireland generally. The only difficulty would be with respect to getting contracts with the proprietors of the present steam ships that carry the mails.

324. You conceive that the objection would be that there would be additional expense to the Government?—That is one objection, unless it might be met in this way: Those vessels burn 80 tons of coals a-day. If they were to start from Liverpool, and they were obliged to call for the mails at one of the southern ports of Ireland that they pass by, they would be able to take in at Liverpool one day's fuel less, because they could get a supply at the Irish port, and they would therefore have 80 tons' space for cargo or passengers, and that might be an equivalent to them for the detention, considering the charges that they would make for 80 tons of either passengers' or goods' space.

325. That would depend upon the price of coal at the respective English and Irish ports, would it not?—Certainly; but their rate of freight is necessarily high in comparison with the sailing ships. Eighty tons of space, therefore, is of great consequence to them either for passengers or goods; for if they could fill up both in going out and in coming home, any small difference in the price of coals would not be felt.

326. Would not that cause a detention?—It would accelerate the Post Office mails. It might cause a detention of a few hours to the steamers, because they wait now at Liverpool and start when the mail comes on board; and whether they are 24 or 48 hours getting to the west coast of Ireland it is nothing to them: they are doing their best. But if they entered into a contract with the Government to take the mails from any port on the south-west of Ireland, the contract must be to take them on board at a specified time; and in place of leaving Liverpool on the Saturday night with the mails, they might have to leave Liverpool on Saturday morning in order to be certain of being at the port at the fixed time, because they would be fined if they were not; a fact that proves the great advantage of as short a sea voyage as possible for mail purposes.

327. With respect to the goods which are sent by the steamers, whether English or American, across the Atlantic, is time much of an object?—It must be, or else they would send them by a sailing vessel.

328. Then would not that be an additional element in the expense of the Government contract, that the American steamers, not being obliged to make that delay, would carry away a large proportion of the goods which are required to be delivered speedily in America?—Both the American and the English steamers now carry the mails. The American Government pay the American boats and the English Government pay the English boats; but they both carry mails and passengers, and, I presume, would both have to touch at the port of call.

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Capt. G. Evans, R.N.

January 25, 1851.

329. Would not there be this inconvenience in having a port of call on the west coast of Ireland, that you could never be certain of the exact time in which you would be able to make the port, and therefore you must always start from the first port a little sooner, in order to be sure of being in time?—That is just what I have stated, and is the strongest fact in favour of a short sea voyage. Supposing the mail starts from Liverpool now on the Saturday night, they might find it necessary to start on Saturday morning in order to make sure of being at the port of call at the time fixed; for in all contracts for the Post Office, when I was employed in 1835 and 1836, a fine was imposed if the vessels were not at the port of call for the mails at a particular time. To diminish any uncertainty in this respect can best be accomplished by selecting a south-western harbour that the steamers pass.

330. You stated that the goods would probably be shipped at an English port, where do you think the passengers would embark?—The Irish passengers would embark at the Irish port, but I think all the English and Scotch passengers would embark and disembark at the outfitting English port, and not go through Ireland.

331. Would not then the delay caused by calling at the Irish port lead them to prefer those steamers that were not shackled by such an engagement?—I presume all mail steamers would touch at the Irish port of call, and that, generally speaking, first-class passengers would be inclined to prefer the shorter sea voyage.

332. What are the advantages of establishing a packet station in Ireland with a view to the interests of the empire at large?—First, in a post-office view of the case, it is always of great importance to have the shortest sea-line for your mails, and the longest inland transit that you can That was of consequence even in the old mail-coach time, but it is much more important now that railways have been established; you get greater certainty in the despatch and delivery of the mails by shortening the sea passage. Then, by having your port on the south-west of Ireland, every letter goes direct to the port nearest its destination, and from which it is to be shipped; it goes in a direct line from any part of the United Kingdom to the nearest port of America. Again, a letter on arriving from the West Indies or America is put on shore at the nearest port, and goes direct to its destination, wherever it may be, in any part of the United Kingdom, without going one mile backwards. Whereas, if you take a letter up the Irish or English channels it goes perhaps 200 miles eastward of the person who is to receive it, and then it comes back again, making 400. Then the answer to it has to go back to the same place, making 600, and then it comes down the channel, and passes perhaps where it was written, making altogether 800 miles which the letter and the answer travel unnecessarily. And it would be, as in the case of Southampton, as much as 1,600 miles with the letters of persons living in the south or south-west of Ireland. All that would be avoided by the mails being landed, sorted, and despatched (as I believe was done either at Falmouth, Plymouth, or Exeter) from a western port of Ireland. Then the letters would go direct to their destination the moment they were landed, and the answers would come back to the port direct without making a tour round the country. In a post-office point of view, as far as commercial and private correspondence is concerned, that would be of importance; but in the event of war, it would be, for obvious reasons, of still greater importance to have a western station.

333. Are you aware of the quantity of trade which there is between different parts of Ireland and America?—I should think the greater part of the trade from Ireland to America now goes through Liverpool. I believe the goods are sent by steamers to Liverpool, and then shipped off in American ships at Liverpool.

334. Are you aware what proportion of the goods shipped at Liverpool are Irish goods, and what proportion are British?—I believe that a very small proportion are Irish goods.

335. Do you know the nature of the traffic between Cork and America, or between Belfast and America?—No; what passes from Cork to Liverpool to go to America I could not state. There are vessels going between Cork and America continually, emigrant vessels and others, but I cannot tell what cargoes they take to America.

336. You do not know the nature of the trade between Cork and America?—No.

337. Nor from Belfast?—No; there is an enormous correspondence going on now between America and Ireland in consequence of the number of emigrants that have gone, and a great deal of money sent backwards and forwards. But, of course, that emigration is a thing that cannot be expected to last as it has been going on. It would be no justification for a Company to set up merely on the speculation of getting such a number of emigrants every year as have been going since the famine; of course that will be diminished very soon now.

338. You mentioned that some of the packets used to call at Falmouth, can you state why that was given up?—I cannot tell why, but probably for want of a railway; what I meant was, that in the event of the mails being sent to a westerly harbour of Ireland, the improvement that would take place would depend upon their being sorted there and sent from thence to their different destinations, and also that the receiving-house there should receive the letters going to America and the West Indies from all the different parts of the United Kingdom, and make them up finally.

339. Are the Commissioners to understand that your opinion is in favour of the harbour in Bantry Bay being made a port of call for the transatlantic packets?—Yes.

340. But considerable expense must be incurred to make it adapted for that purpose?—Merely as a harbour, and as a place for communicating with, there would be very little expense necessary, nature has done almost all that would be required; but for Post Office arrangements there would of course be the same expense required as at any new station,

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Capt. G. Evans, R.N.

January 25, 1851.

namely, a landing pier, and establishments for the repair of steamers, and all that sort of thing.

341. The advantage you anticipate would be, that letters addressed to parties in Ireland would more rapidly reach their destination than if forwarded, in the first instance, to Liverpool?—Yes; passengers would, and also letters, if they were sorted at the place where they were landed, or even at Cork or Dublin.

342. But you are of opinion that goods and passengers would be embarked chiefly at Liverpool?—Yes; all but Irish goods and passengers would be embarked at the English port.

343. And you believe that but a small proportion of the goods which are now embarked at Liverpool come from Ireland?—I am not capable of answering that with certainty, but I should think a small proportion, considering the position that Liverpool holds with all the manufacturing districts, at its back close to it.

344. Would not Berehaven, as a port, be very much out of the way in going from Liverpool?—No, not very much out of the way. All those mail steam-vessels go close to Cape Clear, both going out and returning.

345. How far is it from Cape Clear?—I should think about 20 miles.

346. Considering the length of the voyage from Liverpool to Berehaven, and the uncertainty of the winds and weather, would there not be a considerable degree of uncertainty in the time of arrival?—Yes; but I think the uncertainty in favour of the short sea voyage. If coals could be put in at Berehaven as cheap as at Liverpool, the steamers would come with a small quantity of coals, and fill up at Berehaven. They could, from being light, come quicker to Berehaven, and start at the proper time for the mails.

347. What size are those steamers?—The American mail-steamers vary from about 2,400 or 2,500 tons, to 3,000 tons.

348. What difference in the draught of water would 80 tons make?—I am supposing that 80 tons saved in coals would be filled up with goods or passengers and their luggage.

349. How long does it take to coal a large steamer of that sort?—They can coal them in two or three days at Liverpool.

350. Then they must leave Liverpool two days before if they are to coal chiefly at the Irish port?—They would not take in the whole of their coals at Berehaven, but probably only 100 or 200 tons. If the coal was much dearer in price at Berehaven than at Liverpool they might fill up in Liverpool.

351. Where would the supply of coal come from to Berehaven?—I suppose from South Wales. In the harbour of Berehaven they might run alongside the wharf in Lawrence's Cove, where a three-decker might go. I mentioned in my Report that Lawrence's Cove was a natural basin, with water alongside of its margin to heave down a three-decker, the natural rock forming a quay.

352. Where is that wharf with deep water alongside of it?—It is on Bere Island.

353. Not on the main land?—No.

354. The railway could not reach that wharf?—No; but it is remarkably well adapted for a depôt for coals, dockyard, &c., from its insular position. If the railway came to the opposite side, that is equally sheltered, with good sites for landing piers.

355. But there is no water there, is there?—There is, in some parts, but not close up to Castletown harbour, in Berehaven.

356. Is there anything else that you wish to state, in addition to what has been asked of you?—Nothing, except that the evidence I have now given to the Commissioners is chiefly in reference to my opinion as to the eligibility of harbours, without regard to the question whether contracts could be obtained without incurring additional expense. For instance, it is more probable that a contract might be got for taking the mails from Cork than from Berehaven, it being a chief commercial town, with a railway to it.

357. You have stated that Berehaven is the best station for a packet to call at; is it better than Cork?—I should say that it was, being further to the westward; that the shortest sea passage ought to be preferred, and that, as being the nearest point of departure, would, for a port of call, *cæteris paribus*, be the most eligible port to start from; but always bearing in mind, that in a large, well-established town, like Cork, you might get contracts to carry the mails, and to do all that was necessary, on a much more economical scale than you could by going to what is a more eligible port, but where everything would have to be done anew in the way of establishments. There is no doubt but that, in the event of war, it will be deemed necessary to send the mails from a south-western port in Ireland connected by railway with Dublin.

[*The witness withdrew.*]

FRIDAY, 7th February, 1851.

The Earl GRANVILLE in the Chair.

Lieut.-Colonel William Leader Maberly and *Rowland Hill, Esq.*, examined.

Lieut.-Colonel William Leader Maberly and Rowland Hill, Esq.

February 7, 1851.

358. (*To Colonel Maberly.*) You are acquainted with the object of our inquiry, namely, whether it is desirable for the imperial interests to have a packet station in Ireland, and if so, in what part of Ireland it should be. Before we come to any decision upon the first question, we are anxious to know whether the Post Office have any suggestions to make to

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Lieut.-Colonel William Leader Maberly and *Rowland Hill, Esq.*

February 7, 1851.

us upon the subject?—I have really reflected very little upon it, attaching very little practical importance to the subject *at present*. It cannot be disconnected from the traffic in goods and passengers.

359. (*To Mr. Hill.*) Have you anything to suggest upon the subject?—I have turned my attention to the subject since I received Lord Hobart's note, but it is not one to which I have attended very much. It appears to me that so far as the convenience of the Post Office is concerned, the port for the despatch and arrival of the American mails cannot be too far to the west; that the further it is situated in that direction the better, so long at least as it is not beyond the reach of railway communication. This is partly because of the progress by railway being quicker than by steam-packet, and partly because a more westerly packet station would enable us to serve the western parts of the empire better than at present. If, for instance, the port were situated on the western or south-western coast of Ireland, it would be *possible* to bring the mails to Liverpool, London, and all parts of England and Scotland probably ten or twelve hours earlier than at present, while as regards Ireland, which receives about one-third of the whole correspondence in question, the time saved would be still greater. These advantages, however, could not be secured I fear without incurring a very large additional expense. The first point to be considered is whether the station is to be one at which the packet is merely to call to leave and take up the mails on its way to or from Liverpool, or whether it is to be the port at which the voyage is to commence and terminate. If the former, the choice appears to me to be restricted to ports near to which the packets now pass. Galway, Limerick, and perhaps even Cork, would I think be too much out of the direct route. If the latter, it appears necessary to consider how far the arrangement might be suitable for the passenger and goods traffic, as the expense to the Government of the mail packets would of course be greatly augmented if any obstacles were thrown in the way of such traffic. This is a question on which I am not prepared to speak. The owners would, of course, be the best judges. Should it be found practicable to transfer the packets altogether to a western port in Ireland, to Galway for instance, without injury to the passenger and goods traffic, some reduction in the cost to the Government of the mail packets would no doubt be obtained as a set-off against the increased expenses of inland conveyance, and possibly the whole arrangement might be effected without additional charge. But this is a result of which I fear there is little hope.

360. What are your grounds for so thinking?—I think it would not be convenient to the majority of the passengers to embark and disembark at Galway. The majority of the passengers, I presume, are from England and Scotland, and I think that their convenience would be opposed to an embarkation at Galway instead of at Liverpool. But this is a point upon which I have no peculiar information.

361. And you think it would be the same with respect to goods?—As regards goods the case is in my opinion very decidedly in favour of Liverpool. I believe the packets carry a considerable quantity of light goods.

362. And they are probably valuable goods, because they charge a much higher freight than is charged by sailing vessels?—They are, I believe, silks and muslins, and other light goods, many of which are manufactured at Manchester. I have understood from Mr. Cunard, that he carried a considerable quantity of light goods, which would bear a heavy charge for freight. In speaking of increased expenses, I have confined myself to those of inland conveyance, because I do not think it would be necessary or desirable to create a new sorting establishment at the packet station, whether it be one of call or otherwise.

363. Will you be so good as to state your reasons for thinking that it would not be expedient to create a sorting establishment at the extreme point?—I have seen the answers from the Post Office to certain queries prepared by the Commissioners, and assume therefore that it is not necessary I should trouble you on the same points. You will have seen by those replies that the cost of a staff sufficient to sort the American mail is estimated at a very large sum, I think about 2,300*l.* a-year. My own opinion is, that the transfer of the packet station to Galway, or any other port, does not necessarily imply the establishment of a sorting staff at that port.

364. Then where would the letters be taken in order to be sorted?—I would take them to Dublin. I should explain that the mails are now despatched from the United States and from Canada, assorted to a certain extent. The Irish letters are, to a considerable extent, separated from the English and Scotch letters already. The mails are not completely separated, they are not separated so far as to have a distinct bill for the Irish letters; but, so far as I can learn, the Irish letters are tied up in separate bundles, and are, to a certain extent, put into separate bags, though they are included in the same bill with the Liverpool letters. Such, I am informed, is the present state of things.* But whether it is so or not, I presume that arrangements might be made for effecting such a separation. If the Irish letters could be completely separated from the English and Scotch letters, then the course of proceeding would be this. Upon the mail arriving, we will say at Galway, the Irish bags would be separated from the English and Scotch bags, and an arrangement might possibly be made for having the letters for Galway and for the more important places served from Galway, separated in America, from the remaining

* Extract from a letter from the postmaster at Liverpool, dated 9th February, 1851:—"Nearly the whole of the letters for Ireland from the United States come assorted and tied up in bundles, labelled 'Ireland,' which, however are not sent in separate bags, but mixed with the bundles of letters for England and Scotland."

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portion of the Irish letters. These, however, are matters of detail upon which I cannot speak with any degree of confidence. With the possible exception just named, I would recommend that the whole mail, English, Scotch, and Irish, should be sent direct to Dublin, where there is a large sorting staff already established. The greater part of Ireland would be served as speedily through Dublin as in any other way. As regards the greater part of Ireland, nothing would be saved by sorting the letters at Galway; for, if sorted at Galway, they would still have to pass through Dublin. I should propose, therefore, to send the whole of the mail to Dublin in the first instance. Indeed, irrespective of the question of expense, a sorting in Dublin would be preferable to a sorting in Galway, as the first would never interrupt the progress of the mails, whereas the second would sometimes cause serious delay.

365. With reference to letters for Belfast, do you think it would be the best arrangement to send them to Belfast through Dublin, provided the port of embarkation were either Galway, Limerick, or Valentia?—Undoubtedly, supposing the Dublin and Galway Railway to be completed.

366. Supposing such an arrangement were carried out, should you be put to any additional expenditure in transmitting the American letters by railway to Holyhead, then by steam-packet from Holyhead to Dublin, and from Dublin to whatever port was fixed upon; or would your present arrangements include any additional number of letters that you might have to convey?—I do not think we should incur any additional expense, provided we used the ordinary mail trains. I am assuming all along that the railway is completed to Galway, or whatever port might be fixed upon. Assuming that, I think we should not be put to any material additional expense so long as we used the ordinary mail trains.

367. Do you think that in the event of sending the letters from a port on the western coast of Ireland, in order to ensure the increased speed which you contemplate, it would not be necessary to employ express trains?—I think it would; and therein consists the difficulty. I think it would be necessary, in order to derive any material advantage from this arrangement, that the bags should be sent express all the way, not only from Galway to Dublin, but from Dublin to Holyhead, and from thence to Liverpool; and it is in that way that enormous expense would arise. But this does not depend upon the circumstance of there being no sorting staff at Galway. Whether you have a sorting staff at Galway or not, you must have express trains to send on the letters for England and Scotland, or you would deprive England and Scotland of the advantage of the western port.

368 You do not send express trains with the mails from Liverpool to London at present?—No; it so happens that the mail trains serve very well, and the use of express trains would, of course, greatly increase the expense.

369. How far do you think that the number of letters transmitted depends upon the rapidity of the transmission?—There can be no doubt that increased rapidity tends to augment the number of letters very materially.

370. Which would, in your opinion, have the greatest effect in increasing the number of letters sent between the United States and this country, and *vice versâ*, the doubling the number of departures, or doubling the speed of the passage?—I think doubling the speed, if that were practicable, would increase the number of letters more than doubling the frequency of the departures. They are already very frequent.

371. Have you made any calculation as to what increased speed would be gained by establishing a packet station on the western coast of Ireland?—Of course that depends very much upon the time which would be saved in respect of the passage; and that is a nautical question which I do not feel myself competent to deal with. But assuming that the packet sails at the rate of 10 miles an hour, then it appears to me that about 10 or 12 hours might be saved by its delivering the letters at Galway, provided that you have express trains. The probability is, that the arrival of the packet at Galway would not fall in with the departure of the mail train for Dublin.

372. Supposing they were sent from London at the usual mail time, would they not get to Galway by two or three in the afternoon?—As regards the outward mail, of course, the whole time would be saved, because we can regulate the despatch according to our trains, and the packet may sail immediately on the arrival of the train; I am speaking of the inward mails. The packets arrive, of course, at all hours of the day and night. We cannot regulate their arrival at all. As regards the inward mail, I see no chance of effecting any material saving of time in the distribution of the English and Scotch letters, except by incurring a very serious expense for express conveyance all the way from Galway.

373. Even assuming, as you do, that 12 hours would be saved, what increase of correspondence should you think at all likely to arise from a saving of 12 hours in the voyage between this country and the United States?—A very trifling increase.

374. What should you say would be a fair rate of speed by the railway to give to a mail of the importance of the North American mail?—If it is an express mail, of course you may reckon on a higher rate of speed. The usual rate of mail trains is about 25 miles an hour, including stoppages; that is quite as high as the average. We are not entitled to demand more than 27 miles an hour, unless there are swifter trains upon the same railway.

375. Except in very special cases, such as the mail to Dover?—The speciality of the circumstances does not affect the question. The Postmaster-General has no power to demand a higher rate of speed than 27 miles an hour, unless upon the same line of railway

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Lieut.-Colonel William Leader Maberly and *Rowland Hill, Esq.*

February 7, 1851.

there is a train actually running at a higher speed, and then he may demand the same speed.

376. But supposing the Postmaster-General were to come to an agreement with the Irish Railway Companies to accelerate the train, what would be a fair amount of speed to be expected upon the railway?—I suppose in that way we could obtain a speed of 30 miles an hour at least. I think our quickest train is the Dover. We go to Dover in two hours and a half, which is at the rate of abont 35 miles an hour.

377. Will you have the goodness to state in what time you think you could reasonably expect to pnt your mails on board the packet at one of the principal ports on the western or south-western coast of Ireland, both by ordinary trains and by express trains; and will you state also, as far as you can, what the additional expense would be of employing express trains?—Assnming the railway from Dublin to Galway to he completed, I am of opinion that a mail despatched from London at 8 P.M., and travelling all the way by the ordinary mail conveyance, might be put on board the packet at Galway about 1 A.M. of the next day but one, or in about 30 hours. This period might be reduced to about 24 hours by the use of the mail which leaves the London office at 4h. 30m. P.M.; but such an arrangement, though very convenient to Liverpool, and perhaps to the country generally, would, I fear, be inconvenient to both Loudon and Dnblin. As regards the use of express trains, if the night mail leaving London at 8 P.M. in the usual manner (for here little would he gained by change) were on reaching Dublin immediately forwarded by express train to Galway, so as to avoid the long detention which would otherwise occur in Dublin, the mail might, in my opinion, be put on board about 5h. 30m. P.M. of the next day, or in about 22 hours. The additional expense would probably be about 45*l.* for every outward mail, or, confining the estimate to Cunard's packets, about 2,000*l.* per annum. As regards the inward mails, express conveyance wonld frequently be required all the way from Galway to Liverpool. The cost of trains may be estimated at about 75*l.* per mail, or, assuming them to be required in five cases out of six, at ahout 2,800*l.* per annum. The additional expense, therefore, of employing express trains both ways would probahly be about 4,800*l.* per annum. The further additional expense of special packets I have no means of estimating.

378. With respect to the comparative effect in increasing the number of letters, of augmenting the nnmber of mails, or of accelerating the speed of the mails—putting a very extreme case—snpposing you had a mail to any place only every other day, would it not be better to send a mail every day at a slower rate than to double the speed of the mail going every other day?—I understand the question to apply to the whole time between London and New York; not to the time between London and any port in Ireland, hut to the whole distance. I conceive that if you could possibly double the speed, and so reduce the time from twelve days to six, you would effect a very great increase of letters.

379. A greater increase than would be produced by having the departure twice as frequent as it now is?—I think so. But these are speculative questions about which it is extremely difficult to form a decided opinion.

380. Do not you think that a person is more likely to write an additional letter, if he has an additional opportunity of sending, than if he knows that his letter will arrive some twenty hours sooner than it did before?—I think twenty hours in a distance, measured by twelve days, would not effect any material increase of letters. But the questiou put assumed a saving of half the time. There is no doubt, however, that doubling the frequency of communication would greatly increase the number of letters.

381. With regard to any place which has at present only one delivery in the course of the day, should yon be more anxious to secure an additional delivery, or to send your letters by a more rapid train?—I do not know that the question has ever taken that form; either change tends to increase the number of letters, but I am not prepared to say which would have the most decided effect. Much would, of course depend on the amonut of increase in the rate of conveyance.

382. But you do not think that the gain of a few hours on a passage of so many days would materially increase the number of letters?—Certainly not. It would scarcely produce, I think, any appreciahle effect on the amount of correspondence.

383. Do yon think it would he worth any considerable expenditure?—I think not. At the same time, I am speaking only of the saving as regards England. The saving as regards Ireland would be great. Then, on the other hand, we must bear this in mind, that the Irish correspondence with America, though numerically important, does not probably possess the same importance with regard to individual letters, which the English correspondence does. I presume it is very much correspondence between emigrants and their friends at home.

384. Not on commercial matters?—Not on commercial matters. I think it has not the same commercial importance as the English correspondence has.

385. Have you any means of knowing that, or is it merely a matter of opinion?—There is a very general impression to that effect in the office. We judge from the appearance of the hand writing, and matters of that kind.

386. Do you note observatious of that kind?—The sorters and persons through whose hands the letters pass, notice such things. I know that such is the opiniou of the Postmaster at Liverpool.

387. From his observation of the letters?—Yes.*

* Extract from a Letter from the postmaster at Liverpool, dated 9th February, 1851:—"The proportion of commercial letters amongst those for Ireland is extremely small, apparently not more than three or four in a hundred are of that nature, while certainly two-thirds of those for England and Scotland seem to be commercial letters."

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Lieut.-Colonel William Leader Maberly and *Rowland Hill, Esq.*

February 7, 1851.

388. With regard to any loss that might be sustained in respect of passengers and goods, that is merely a question of cost. The more passengers and goods, the less the cost of conveying the mail?—Unquestionably. I consider that the Government has to make up the difference. The cost of conveying the bags of letters would, of course, amount to nothing to the owners, if they made the voyage for the sake of the goods and passengers. I should expect that the transfer of the packets to an Irish port would very materially injure the passenger and goods freight, but to what extent I cannot tell.

389. At present whatever letters you have for North America, you send either by the United States or by the British packets?—By the first packet, unless there are instructions to the contrary upon the face of the letter.

390. Whether it starts from Southampton or from Liverpool, you send by whichever is the first packet?—Yes.

391. Does the convention upon which that is founded include Ireland as well as England?—It includes the whole of the United Kingdom. Though I do not recommend the transfer of the packets to Ireland, there is a mode by which the correspondence may be considerably accelerated, at a comparatively small expense, which I am prepared to submit to the Commission.

392. Will you be good enough to state what that mode is?—It appears to me that the correspondence of the United Kingdom might be considerably accelerated without incurring any serious expense, by a slight modification of the existing arrangements, viz.:—1. Let a separate mail be made up for Ireland, as already suggested. 2. Retaining Liverpool as the port of arrival and departure of the packets; let them be required to call at Holyhead, and land and embark the whole of the mails at that port. 3. As regards the inward mail, let the Irish portion be detained for despatch, unopened, to Dublin by the first mail packet. 4. Let the London and Liverpool portions be despatched, unopened, each by the most direct route, to its destination. 5. If waiting for the next mail-train would materially delay the letters, let any ordinary passenger-train, which may serve the purpose, be employed; or, if necessary, let an express-train be used as far as Liverpool. 6. As regards the outward mail, let similar arrangements be adopted. By these means Liverpool, and all parts served through Liverpool, would save, on the average, I think, about three hours, and London about five hours; while the saving to Ireland would be very considerable indeed. I understand that we have power to require Cunard's packets to touch at Holyhead. Of course we have no control over the packets belonging to the United States; but I think that if the arrangements which I have suggested were adopted with reference to Cunard's packets, the United States Government would voluntarily adopt the same arrangement; otherwise it would lose many of the letters.

393. When you say that the saving would be so considerable to Ireland, would it not depend upon the time at which the letters arrived previously to the sailing of the Irish packet. If, instead of being landed at Holyhead, they went on to Liverpool, and arrived there before the sailing of the evening packet to Dublin, would they not reach Ireland almost as soon as if they arrived at Holyhead previously to the sailing of the packet, which leaves Holyhead about the same hour?—Of course the amount of saving would depend very much upon the hour of arrival; but the chances would be greatly in favour of a material saving as respects the letters going to Ireland. The landing at Holyhead, instead of going on to Liverpool, would, in nearly all cases, make the difference of at least half a day, and, in the majority of cases, of a whole day.

394. There is also the advantage, that at Holyhead there is a double service to Ireland during the day?—There is, I think, communication from Liverpool as well as from Holyhead twice in the day.

395. But the mail from Liverpool starts at eight o'clock, arrives at Holyhead at two, and gets over to Dublin at seven o'clock in the morning?—I believe those are the hours.

(*Colonel Maberly.*) The day mail to Dublin leaves London at five in the afternoon; it gets to Holyhead at two in the morning, and arrives at Dublin at seven. The Liverpool letters dispatched at nine at night fall into that communication. The other mail, which leaves London at eight at night, gets to Holyhead about seven, and over to Dublin about twelve. It would be useless to send off letters to Liverpool at one o'clock in the morning, and therefore the nine o'clock communication answers both purposes. We do not make up two mails, one at nine o'clock at night, and the other at one in the morning, nobody would write between those hours; the nine o'clock mail answers all the purpose, and gets over in time for the first delivery in Dublin, in the morning, which is the most useful and important delivery.

396. (*To Mr. Hill.*) When you say there would be a great saving, you mean as compared with the present arrangement?—As compared with the present arrangement, there would be a material saving, equal to the time that the letters take in going by the packet to Liverpool, *plus* the detention in Liverpool, *plus* the time by the railway, back to Holyhead, the total would be the average saving.*

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* Extract from a letter from the Postmaster at Liverpool, dated February 9, 1851:—

"Average interval between the inward packet passing Holyhead and landing its mails at Liverpool, about	6½ hours.
"Average interval between the landing of the American mails at Liverpool and the despatch of the Irish portion for Holyhead, about	10 hours.
"Average interval between the despatch of the Irish mail from Liverpool and its arrival at Holyhead, about	4½ hours.
Total about	21 hours."

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Lieut.-Colonel William Leader Maberly and *Rowland Hill, Esq.*

February 7, 1851.

397. In short, if the American packet happen to arrive at Holyhead just before the Dublin packet started, the letters would reach Dublin, and Limerick, and Galway, very nearly at the same time that they would reach London?—They would reach Dublin much earlier than London, and Limerick about the same time as London. As regards Galway, when the railway is completed, it is probable there will be a mail twice a day from Dublin, in which case Galway also would get its letters about the same time as London would; and London would be served frequently half a day earlier than it now is. An express train from Holyhead to Liverpool, would sometimes be required; otherwise it would occasionally happen that the Liverpool letters would be delayed by their being landed at Holyhead. I recommend that all the mails should be landed at Holyhead. If the mail or the ordinary passenger trains served, they would, of course, be used; if not, by running an express to Liverpool, even that town would benefit materially by the change.

398. (*To Colonel Maberly.*) You have heard the evidence which has been given by Mr. Rowland Hill, in which, after detailing the advantages which he thinks might accrue from establishing either a port of call, or a western packet station in Ireland, he has come to the conclusion that it would not be desirable to establish such a station. Do you agree in his conclusion, or have you any remarks to make upon the previous part of Mr. Hill's evidence as to the advantages of a western packet station?—No. My own opinion has always been that the question was a very impractical one; and that, in point of fact, the Government could not undertake it consistently with that economy with which it is necessary that the Post Office should be managed, to inspire confidence. All post-office questions are subordinate to economy of arrangement. The starting of the packets from a port from which there would be no passenger traffic, and no goods traffic, would involve such considerations of expense, that I apprehend that the Government could not possibly undertake it And, in the present case, those considerations are much strengthened by the circumstance of your having a foreign power competing with you, having a rival line of packets, which line of packets, if you were to send your own packets to a port where there was no passenger traffic, or no goods traffic, would very shortly beat them out of the field. The packets of Mr. Cunard can only be supported by passengers and goods. The Government make up the difference; if, therefore, the Government is prepared to order Mr. Cunard to go to a western port, you would have to pay him 50,000*l.*, or 60,000*l.*, or 80,0000*l.* a year, to maintain the communication. As an example of the sort of expense that would be incurred, the other day the "Atlantic" put into Cork, and I understood, from Mr. Cunard, that he was paid by the Company who hired the "Cambria," the freight of the "Cambria," and, I think, he said 2,000*l.* more. The freight of the "Cambria" was about 4,000*l.*

399. You are assuming that there would be no passengers, or very few from Ireland?—No goods, certainly; the expense would be too enormous. No company could stand the competition.

400. You are connected with Ireland, having property there?—I have property in Ireland close to Limerick. My own belief is, that it is totally out of the question, it is impractical; and I do not see any great gain that could result from it. What you want quick communication to America for is, for your Manchester and Liverpool and manufacturing districts' correspondence. As for your Irish correspondence, I take it, it is mere gossip.

401. And for Belfast?—Belfast would be more quickly served from Holyhead than it would from Galway. You must serve it through Dublin, as Mr. Hill very properly says. I think the plan of running direct for Holyhead is the most feasible thing. A packet establishment at Holyhead, making up bags for Ireland and for London, as Liverpool now does, seems to me by far the most practical result we can come to.

402. Under what arrangements would the mail be conveyed either to Holyhead or to a port on the west of Ireland, with reference to sorting the letters?

(*Mr. Hill.*) Under the plan I propose, with reference to Holyhead, there would be no sorting at Holyhead; the sorting staff would remain where it is, at Liverpool.

403. If a western port of Ireland were made the packet station, would that involve sorting at any intermediate places?—Not by the arrangement I have described, for sorting all the letters at Dublin, but of course there would be a sacrifice of time in that as regards a small portion of the correspondence.

(*Colonel Maberly.*) With reference to sorting, you must always take this into consideration, that whenever you get a great mass of letters you must send them to a place where you have a large establishement. I cannot illustrate the principle better than by stating what occurred with regard to the French mail *viâ* Marseilles. We had formerly in the Post Office an office called the Foreign Office, which was entirely appropriated to the sorting of foreign letters. The French mail *viâ* Marseilles when it arrived in London used to take from eight to nine hours to sort. Now the Inland Office and the Foreign Office are consolidated, and the French mail *viâ* Marseilles, though containing many more letters than it used to do, is worked off in about two hours. It is the great force being applied to the work which makes the difference between the eight hours and the two hours, therefore you must always select for the sorting of a great mass of letters, an office where you have a large quantity of disposable force, or else you must create a large office for the purpose. Mr. Hill's objection to making Holyhead the sorting place is a very just one. If you did so, you must create an office at Holyhead. There is another point also to be considered, it is not only sorting the packet letters when going outwards, but you must also be prepared to sort into inland lines of road, the letters arriving inwards; and all this within such a space of time as to enable the public to get their letters

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Lieut.-Colonel William Leader Maberly and *Rowland Hill, Esq.*

February 7, 1851.

rapidly; but if, in consequence of your inadequate force at the place, you are 10 or 12 hours in despatching your mail or in sorting it out on arrival, you gain nothing by going to a western port. At the Post Office the question is between time and force. We want everything done very quickly, and the consequence is, that we are forced to compensate for the shortness of time by an increase of force. For example, take the Inland Office in London; if we had plenty of time to sort the letters, we could do with a much smaller force; but when we are pushed within two or three hours to despatch a mass of letters we must increase the force, that runs through the whole Post Office arrangements. Whatever you take out in time you must add in force. With regard to Liverpool you must always have a great sorting establishment there on account of the line of packets belonging to the United States. You cannot control the American line; they will not go from Holyhead; they will not abandon the freights; their object is to work Cunard's packets off the line if they can, and have packets of their own. The States do not care what they pay for it; they have set their heart upon it.

(*Mr. Hill.*) There is another important consideration with reference to creating a sorting staff at another port, and it is this. Even if we were to have as large a staff at Galway as we have at Liverpool, that staff would be very much less efficient for want of practice; they would only have work once or twice a-week, and they would not be able to get through the work with the same speed as they do in Liverpool, for want of daily practice.

404. Have you a staff at Dublin now, equal to sorting the American mails?—The staff at Dublin is larger than that at Liverpool; but it would not be necessary under either of the arrangements which I have suggested that they should sort the English letters at Dublin; they would only have to sort the Irish letters, which indeed they now do.

405. (*To Colonel Maberly.*) Have there ever been any representations made to the Post Office on the subject of making arrangements which would enable the letters to start, in their outward passage, at a fixed hour, instead of being delayed as they now are by the state of the tide?—I think not.

406. Therefore, we may conclude that the commercial public of Liverpool have not thought it worth while to take any extraordinary methods to prevent that delay, which it was possible to prevent if it had been thought desirable?—I do not think it is an injury to Liverpool. It is an injury to Manchester and its neighbourhood; but the merchant in Liverpool puts his letters on board till the very last moment, especially by an arrangement which has been made at Liverpool by having a kind of temporary office there on the pier.

407. But are not letters arriving still delayed outside the Bar until the tide suits, so that the people of Liverpool do not receive their letters as quickly as they might?—(*Colonel Maberly.*) I think there is a small tender. I do not know whether it is used for that purpose.

(*Mr. Hill.*) If the mails were dropped at Holyhead, of course that loss of time would be avoided.

(*Colonel Maberly.*) I take it that the question as to Holyhead is a nautical question more than a Post-office question.

408. You do not contemplate that any large sorting establishment would be necessary at Holyhead?—(*Mr. Hill.*) No, certainly not.

409. You think that the sorting would be done at other places; that the letters would come sorted and be ready to be put on board?—Certainly. There would, perhaps, be a slight increase of force necessary at Holyhead, such as a porter or two.

410. The Irish mails would go direct to Ireland without sorting?—Yes.

(*Colonel Maberly.*) In that case Dublin must be included in the treaty with the States. We have mails made up at present in two ports on the other side of the Atlantic, Boston and New York. The treaty runs that bags are to be made up at Boston and New York by the packets running to Liverpool, for London and Liverpool only. By the Southampton packets bags are made up for Southampton as well as London; therefore, if you require the letters for Ireland to be separated, you must come to an agreement with the American Post-office for making up bags for Dublin.

411. Do you apprehend that there would be any difficulty in making such an arrangement?—None whatever.

(*Mr. Hill.*) The thing is done now to a great extent under an old arrangement, which existed before the treaty was made. Such, at least, is the information I have.

412. But we may assume that such an arrangement would not be a difficult one to conclude?—(*Colonel Maberly.*) I should think not. But there is always this difficulty with a foreign country in making up numbers of bags, that they do not know your sorting, and they mix up letters for other places in the bags which ought not to go in those bags, so that we are often forced to cut the bags open and to have them resorted. However, therefore, they may profess to make up bags for particular places and sort the letters into them, there are constant mistakes; they cannot know, for instance, the sorting for London. They cannot possibly know Kensington, Camden Town, and other great suburbs and places round London, therefore you are always subject to mistakes. The question is what is the number of mistakes? If we found the number of mistakes great, we should cut open the bag and re-sort all the letters.

(*Mr. Hill.*) In point of fact the London bag is not examined at Liverpool. There are, no doubt, many errors, but the inconvenience arising from those errors falls chiefly upon people who give imperfect addresses to the letters, and it tends in some degree to make them more careful in that respect.

413. Some days ago there was a mail landed at Holyhead by one of Cunard's packets.

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Lieut.-Colonel William Leader Maberly and *Rowland Hill, Esq.*

February 7, 1851.

How was that disposed of? Were the Irish letters sent over to Ireland from Holyhead, or did they go on to Liverpool, and were they from Liverpool sent on to Holyhead?

(*Colonel Maberley.*) The mail would go to Liverpool. There are such things as accounts. For instance, the Boston postmaster or the New York postmaster has an account with the Liverpool postmaster; that account goes in the bag with the letters to Liverpool and the Liverpool postmaster has the letters told up, and sees that it is correct. The money part of the business is settled by the postmaster in Liverpool. The postmaster of New York or Boston would not take the postmaster of Holyhead's word. The money part of the question, therefore, renders it necessary that the letters made up at a particular port should be checked by the officer at the corresponding port.

414. If you were to establish a packet station in Ireland, would it not be necessary to alter the present treaty with the United States?—Certainly; but I do not think there would be any difficulty in that.

415. Is it a formal treaty between the two Governments?—Yes; between State and State.

416. What are the reasons which prevent the employment, as a general rule, of express trains in the conveyance of mails?—All our communications must be so arranged that they must not only be terminal, but intermediate. We do not go merely from point to point, but from town to town, picking up and dropping letters all the way through, consequently you cannot obtain great speed all through the country; if you do, you must go from point to point with very few stoppages; from London to Glasgow and Edinburgh, for instance, and you must have a slower train to maintain the communication between all the places on the line. For example, Birmingham must communicate with Liverpool, and Birmingham must communicate with Newport Pagnell and Watford. The Post Office communications are main trunks with smaller lines falling into them on each side like the bone of a herring, if I may so express it. There are 8 or 10 towns on each side of the London and Birmingham line, between London and Rugby, as many nearly between Rugby and Tamworth, and so on, all having an intercommunication by the main trunk and the lines falling into it

417. If you wanted to obtain great speed with the North American letters by sending them to a western port in Ireland, you would be obliged to have an additional train to convey those letters?—Yes; but your communication from the packet port in Ireland must be fitted to the regular mail trains; because upon any line of communication through the country, if the train stops at any point to leave a bag, unless a messenger is there to take it, the bag must either be taken on or lie upon the line. You make your arrangements for once a-day, or if you have a double mail, for once in 12 hours, and the messenger must be there at the appointed time, and that applies all along the line. If special arrangements, which are inconvenient and expensive, were made, the letters might not be accelerated by them, they might have to lie at other offices or wait for the regular deliveries. In Post Office communication, what we want is that a letter from the time of its being posted to the time of its being delivered should occupy the shortest possible period. People frequently deceive themselves in that they think that if they send off a letter sooner, it arrives at its destination so much the sooner. Frequently it does not. It is just the same whether it is sent off at a particular hour or 10 hours afterwards, if it lies in an intermediate post office for such a time, which it frequently does.

(*Mr. Hill.*) It follows, from what Colonel Maberly has just said, that if an express were to be employed for carrying the mail from Dublin to Galway, or any other Irish port, still the letters from the country towns in Ireland would have to be sent to Dublin, though they might be the letters of towns by which the express actually passed. Therefore, though an advantage would be gained on the one side by using an express, it would be lost on the other; and in the end, the advantage of the express would be rather to England and Scotland than to Ireland.

(*Colonel Maberly.*) For instance, supposing your packet port were either Cork or Galway, and your mails were made up in Dublin, every letter must be sent up to Dublin previously to be made up in the mail, and then sent down in the express from Dublin to the packet port of Galway. So that the letters would come up from Cork or Galway to Dublin, and would be included in the mail, and all go back again to Cork or Galway afterwards. In the same way, at this moment, a letter posted at Penzance for the West Indies or Brazil, comes up to London, and is included in the London mail; made up, and sent back again to Southampton. Southampton, at this moment, gets all its India, West India, and Peninsula correspondence from London. It is not a sorting place, either for the India mail or for the Peninsula mail, or for the West India mail. The letters come up to London, and then go back to Southampton.

(*Mr. Hill.*) That is necessary in the Post Office arrangements, to avoid greater inconveniences.

418. Could you define any scale by which you would estimate the expense that it may be worth while to incur in gaining speed in the transmission of the mails. Have you any great pressure upon you at the Post Office for increased speed, particularly for foreign countries?

(*Colonel Maberly.*) Not much for foreign countries, I think; but with regard to England, certainly. Lord Lonsdale said that, when he came to the Post Office, he found the great difficulty to be, that everybody wanted to post their letters half an hour later, and to receive them half an hour sooner than could possibly be managed.

419. (*To Mr. Hill.*) Will you be so good as to state how much, under ordinary circum-

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Lieut.-Colonel William Leader Maberly and *Rowland Hill, Esq.*

February 7, 1851.

stances, the town of Belfast would benefit in their postal arrangement, with reference to American letters, by the establishment of a western or south-western packet station in Ireland, as compared with the existing arrangement; and also as compared with an arrangement for landing the mails at Holyhead?—Assuming the packet station to be Galway, and the railway thence to Dublin to be completed, I find that, as compared with existing arrangements, the town of Belfast would, under ordinary circumstances, benefit to the extent of about 41 hours; and that, as compared with an arrangement for landing the mails at Holyhead, the saving would be about 20 hours. In making this comparison, I have assumed that no special conveyance will be employed, except occasional trains, as already described, between Liverpool and Holyhead. Also, that (as I understood from the Commissioners) the voyage to Holyhead is longer than that to Galway, by the distance from Cape Clear; and that the packets sail at an average rate of 11 nautical miles per hour.

[*The Witnesses withdrew.*]

John Penn, Esq.

February 7, 1851.

John Penn, Esq., further examined.

420. Are you now able to give the Commissioners further information with respect to your plan for constructing steamers for the more rapid conveyance of the mails between the United Kingdom and North America?—I have been engaged professionally, in conjunction with Mr. O. W. Lang, of Chatham Dockyard, to give my opinion as to the way to effect this object. I have, in conjunction with Mr. Lang, who is the son of the master shipwright of Woolwich Yard, prepared some plans. I am employed professionally by Mr. McCalmont, and some other gentlemen interested in this matter.

421. Have you any objection to state what the plan is?—No. I have the plan of a ship and engines here [*producing the same*], which will show that I have given considerable attention to the subject. My own opinion is, certainly, that if the class of ship proposed were to be adopted in conjunction with the engine as shown, a very much higher rate of speed would be obtained than has hitherto been done in ocean steaming. I have no doubt that an average speed of 15 knots an hour could be obtained.

422. Would the construction of that vessel be such as only to enable you to take coals for a certain distance?—2,200 miles is the distance I have laid it out for. That was the basis of my instructions professionally, and I have adhered to that. I have not calculated for a greater distance.

423. Is it your opinion that supposing a similar construction should be adopted, your principle would be inapplicable for a longer distance?—No, it would not be inapplicable, but it would involve a larger vessel; it would be a question of size to maintain the same speed; it could be done, but it would be a larger and more expensive vessel. I have confined myself to 900 horse-power, and a vessel of about 2,100 tons. We propose to attain this high speed by the introduction of that which does not already exist in the transatlantic steamers. In the first place the vessel is to be much sharper and finer, and not to carry any goods, but simply passengers and coals.

424. Would it make any material difference in the feasibility of the plan, whether the packet station for the United were on the coast of Ireland or on the coast of England?—There would always be a difference. It would require much larger dimensions if it were on the coast of England; it strikes me that you must go to a much larger-sized vessel. The addition of 280 miles to the 2,200 would make a considerable difference in the calculation.

425. That is to say, you must provide for carrying a larger quantity of coal?—To obtain this speed you must have a larger ship.

426. Although it might make some difference in the expense of the vessel, and some difference in the form that you would adopt, you could construct ships upon the same principle to run an additional 300 miles if it were necessary?—Yes, that could be done, but I have not gone into that. I have confined myself to that distance, assuming that that would be about the thing required; but I can say that it would be a much more expensive thing, even for that short addition to the distance; it alters the calculations altogether.

427. An addition of 300 miles would be one-seventh more?—Yes, it would require more room.

428. What do you conceive would be the draught of water of the vessel you propose?—I think the draught of water of this vessel is 17 feet. She would be 2,138 tons and 280 feet long, and her beam is 40 feet.

429. Would that give good accommodation for passengers?—Yes. I have confined myself to one portion of the ship for the machinery; but I am told by Mr. Lang that there is as much accommodation as in the existing ships.

430. When you say 15 knots an hour, you mean that that would be the average speed?—Yes, at last it would be more than 15, but she would start with less than 15.

431. And you think that she would be perfectly safe?—My own opinion is that she would be perfectly safe.

432. What would be the extreme breadth across the paddle-boxes?—The extreme breadth across the beam would be 40 feet; across the paddle-boxes it would be about 28 feet more. The proportions of this ship are very different in the lines from anything that has been used in the Atlantic service; but my experience tells me that you may have fast ships, and you may have sharp ships, and be perfectly safe.

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John Penn, Esq.

February 7, 1851.

433. Could you give the Commissioners any general view of the difference of construction that would be required in order to give a vessel the capability of performing a distance one-seventh more?—I will take that into my consideration immediately: it requires a good deal of calculation.

[*The Witness withdrew.*]

Captain Henry Mangles Denham, R.N., F.R.S.

February 7, 1851.

Captain Henry Mangles Denham, R.N., F.R.S., examined.

434. Have you any information to give to the Commissioners upon the subject which they are appointed to inquire into?—I think I have upon nautical points.

435. Will you be good enough to state your views upon the subject?—Looking to the design of approaching the west coast of Ireland, my experience tells me (and that experience is derived from having been employed on the Admiralty survey of all the deep-sea soundings off that coast), that the precautions which a careful mariner would wish to take in approaching the coast would, in my opinion, be incompatible with the celerity which a steamer having mails on board would seem to authorize the commander in using. The coast of Ireland from Mizen Head round to Galway Bay is so steep-to, there being no bottom in 100 fathoms at 18 and 20 miles off the outlying dangers; and, therefore, if he be only out in his reckoning an hour and a-half's run, which he might easily be, if not having sights within 48 hours for his longitude, under the influence of the heave of the Atlantic swell, which the prevailing winds in the aspect of the west coast of Ireland brings right home to the cliffs, and having failed to obtain soundings, presume he was at a reasonable distance from dangers, so as to run, at least, two or three hours at a time, he might be amongst the breakers before he had any idea of it, and beyond the possibility of retrieving himself. I can easily understand how an Indiaman homeward-bound, to whom a few hours, or perhaps, a few days is not important, would take care, as a seaman ought, to round-to every hour before his log-run had expended his given distance, and not discouraged by getting no bottom in 200 and 100 fathoms, he would still sound so frequently as would insure his not being plumped on the protruding rocks or heads-land all at once. But that the commander of a steamer running time-bound (if I may use the expression), would with great reluctance round-to, even when it was safe to do so, and there are periods when it would not be safe to round-to in the Atlantic; to check his reckoning by sounding in thick weather, though without such indication in the absence of recent observations for longitude, it is possible for him to be right on shore when he imagined himself far outside the edge of soundings and, therefore, felt justified in running. Such a contingency would, in my opinion, constitute a nautical objection to running for the west coast of Ireland as a packet station.

436. Is what you have described the general character of the Irish coast between Galway and Cape Clear?—Between Mizen Head and Cape Clear that is the character.

437. Would not the lights afford you safety against such an occurrence as you have contemplated?—The contingency I am speaking of refers to the thick weather which drifts like the great Atlantic swell upon the coast, with the prevailing winds alike obscuring lights and perplexing the mariner's calculation, when, except between the squalls of a north-wester, the fury of which are to be dreaded upon such a coast, he could not make out the only light which could warn him, namely, the Skelligs Lights, and their elevation is against them in hazy weather; but were they lower, I do not feel that sighting them could be relied upon. We cannot expect a merchant-ship to go through the process of sounding in more than 100 fathoms. Now supposing him to be running for Berehaven or Valentia, or reaching from the west-south-west into Galway Bay, the edge of soundings approximates so closely to the actual dangers that outlie, say not more than 18 to 20 miles off, and taking that as an hour and a-half's run for a transatlantic steamer, and he often utterly in the dark as to his position, through not having any sights for longitude, whilst in fact, a-head of his reckoning, as urged by the prevailing swell and the gale behind him, he might from the indication of his lead line, infer that he was 30 or 40 miles from the coast when he was really only 18 or 20 with no bottom, and 100 fathoms of line out (up and down), the rounding-to, as he would be prompted to do, to pick up his edge of soundings, would take up so much time, that I apprehend that as a steam-vessel bound to keep her time, he would be very apt to lay aside his precaution as a seaman, and hence, without any warning, find himself irretrievably amongst the actual rocks when he estimated himself 40 miles off-shore.

438. Would the soundings extend further off more to the northward in the parallel of Galway Bay?—In the parallel of Galway Bay the soundings extend well off.

439. How would it be in the Shannon, for instance?—I cannot speak decidedly, but the Shannon is indicated by soundings as far off as the Arran Islands are.

440. It has been represented to us that Galway Bay would be very easily made by soundings, are you able to speak to that?—Not having surveyed the offing of Galway Bay, I cannot speak definitively.

441. Were you ever off the Shannon?—Yes, and off Loop Head.

442. Are there good soundings off Loop Head?—Yes, in the parallel of Loop Head, that is, right abreast of it, the soundings are further off-shore.

443. Are you aware whether there is any good authority for saying that Galway Bay could be made so much better by soundings than the more southern part of the coast?—I have an impression that it has been officially surveyed.

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444. You are not aware of any bank being discovered off the mouth of the Shannon?—No, I am not. While I was off this coast upon the survey, it was with the utmost anxiety that we ran in thick weather for any of the ports between Ventry and Crookhaven.

445. Did you ever run into Valentia?—Yes.

446. Do you think that would be a good port for a Packet Station?—The fighting sea which spreads across the true as well as the false entrance would, I think, be very perplexing to a large vessel. A steamer, however, cannot be easily baffled if her landfall is certain. When I was working there it was in a sailing vessel, and then we had to watch wind and sea, and landfall, with the greatest anxiety.

447. Did you ever run for Crookhaven?—Frequently.

448. Is that large enough for large packets?—If kept exclusively for the packets.

449. How many do you think could be stowed there?—Three or four of 250 feet long. It is a place of perfect shelter. I was on the survey from which this chart of Crookhaven has been constructed [*producing the same*], and upon it I have laid down the only part that the packets could occupy. It would be necessary that a wharf should be built to bring them alongside of, in 20 feet water. I should observe that the water that Crookhaven possesses, adapted to the large-sized steamers that we require, is only to be found in the narrowest part of Crookhaven. Supposing a wharf to be built there, and transatlantic packets occupied, it would be necessary to shut up Crookhaven from any other purpose. It could not be coupled at all with its present character of a refuge. Its width across the desired depth of water is only enough for such packets to swing in. If you could provide that no vessel is ever to use it as a refuge, but that it is to be used simply as a packet station, it is admirably adapted for the purpose.

450. With a strong easterly or a north-easterly wind, would it not be very much exposed?—Not at all; the aspect of its opening has a very slight fetch from the eastward. What with the Fastnet Rock being lighted up, and the Cape Clear light, together with the light of Crookhaven itself, and the gradual soundings before and after you make the Fastnet Rock, and the covered aspect of its clean entrance, it is the most complete natural basin for a steam-packet that can be.

451. Do you know Long Island?—Yes; it is very bad to enter, very intricate.

452. But you do not consider that Crookhaven is a fit station for a Transatlantic Packet Station?—Not fit, combined with its accustomed use as a refuge, for which purpose it is adapted and is resorted to at present.

453. Is it the best harbour of refuge in that part of the island at present for sailing-vessels to run for?—I think it is for moderate sized craft.

454. Better than Berehaven?—Better than Berehaven, though Berehaven is the only place for a fleet of line-of-battle ships, frigates, and Indiamen.

455. Have you ever been at Berehaven?—Yes.

456. There is no wharf there for a packet to go alongside?—There was not the slightest prospect of any accommodation of that sort; and the entrance which a ship would court in coming from abroad—the western entrance—is very intricate; and when in abreast of Castletown the margins are too irregular and flat to admit of wharf extension into the required 20 feet water; so that without entering upon apparent topographical difficulties, I would say that is not the place. Here is where we used to lay [*pointing it out on the chart*], and a more inconvenient roadstead cannot be, except that it is sheltered from the sea. I know of no part along the northern margin of Berehaven, east of Castletown, where you could have shelter for wharves.

457. There is no place upon the north coast of that harbour where a large steamer could lie with advantage?—I think not.

458. You know the depth of water on the north side of the rocks on this side of Berehaven; it is deep there, is it not?—Yes, and that is the sheltered side.

459. A vessel could not go alongside there without a wharf being built?—No.

460. Have you been at Tarbert?—No; my experience of the Shannon ended at Scattery.

461. Did you ever run into the Shannon when it blew hard?—No.

462. Did you ever run in in the night?—No, only in the day; we only went to Scattery and Kilrush to replenish stock and water, and to rate chronometers, when we chose the best opportunity for the purpose.

463. In making the south-west coast of Ireland, you consider that it would be necessary to round to and to sound. Would there not be great loss of time with those large vessels in rounding to, and in going at the rate of 10 or 12 knots an hour?—Yes; it would be an operation of 12 or 15 minutes before you had got a satisfactory sounding, and got her off again on her course

464. Every sounding would cost you a quarter of an hour?—I may say so, at the least.

465. You would do that quicker in a steamer than in a sailing-vessel, would you not: you could back her?—I am not sure; I am looking to a stern sea. If a man struck his sounding the first time, he would be amply repaid for the loss of time, because he would go on with confidence; but I am anticipating his making several fruitless casts of the lead.

466. The same precautions are not necessary in going up the English or Irish Channel?—No, because he could run at intervals of two-hourly and hourly.

467. Directly you get away from one light, you go on to another?—Yes; but I am alluding to his making the land and intending Cape Clear, which would on his track from the bank of Newfoundland present to him, at 45 miles off, soundings gradually taking him on, so that he certainly could not sight the Fastnet even unexpectedly, or plump upon any

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Captain Henry Mangles Denham, R.N., F.R.S.

February 7, 1851.

part suddenly unless it was a thick fog (and then he ought not to run); but the moment he makes the light on the Fastnet on Cape Clear he can run on with confidence. If the question which has been put to me extends to the inquiry what port I should recommend, then I should say Cork.

468. Did you ever run from Cape Clear to Milford Haven?—No; but I have run to it upon all bearings on shorter distances, and I surveyed Milford Haven. I have no difficulty about Milford Haven in all weathers, night or day, or hours of tide, as far as abreast of the Town of Milford.

469. What delays do you think a transatlantic packet would be exposed to in running direct for Milford?—No delays in making it, under any possible circumstances. It is the most accessible port that I know.

470. Running from Cape Clear?—Yes.

471. You run across the tide from Cape Clear to Milford?—You run across the St. George's Channel tide, which is easily allowed for.

472. Is there any danger in coming in upon it, supposing it was thick weather?—The soundings so gradually bring you on to that side, and the nature of the depths and bottom is so well laid down in the charts, and Lundy Island is so admirably calculated to guide you, the which it is almost impossible for a man to run against, unless he ran in a thick fog, when he has no business to run. And from Lundy Island the departure is most clear and distinct to St. Ann's Lights, at Milford Haven entrance.

473. Is not the Smalls Light in the way?—No; if he sighted the Smalls, it would be another acceded clue. But he has no business to close with the Smalls. In running from Cape Clear he need not he so far eastward.

474. From Cape Clear he would run for Lundy?—Yes; or rather, between Lundy and St. Ann's Lights.

475. Supposing, that in running for Milford Haven, he missed it, would he be in danger?—He would be in danger, if 5 miles in error, left and right. If he got to the left, he would be amongst the dangers of "Jack Sound," and if he missed it to the right, he would be in danger of the "Crow Rock," and its fangs, off "Linney Head."

476. Is there any difficulty in making Holyhead?—No, there is no difficulty in making Holyhead. All the difficulties lie in the approach to Liverpool from Holyhead.

477. You mentioned thick weather as a source of danger on the western coast of Ireland. Would you extend that observation as far up as the entrance of Galway Bay?—Unless we assume that the ship runs upon its parallel of latitude. But if she runs obliquely from W.S.W., she is likely to come upon the lee shore, off which the Skelligs and the Blaskets lie, and then the running for Galway Bay in thick weather would he dangerous.

478. But if she runs on the same parallel, you do not know whether or not that part is more clear than the rest of the coast?—I am aware the aspect of the bay is clearer of dangers.

479. Are you aware of the increased facility of making soundings on entering Galway Bay, running upon the parallel of latitude?—I am not aware of the soundings outside the Islands of Arran.

480. You are not aware of any charts that show these sonndings that can be relied upon?—No; I am not aware of any.

481. Are you acquainted with the entrance to the Shannon?—Not particularly. I have been up to Scattery—choosing the finest opportunities for going in.

482. How far does the observation which you made as to the dangerous character of the south-west coast extend?—To the Blaskets.

483. From that to Cape Clear you would not recommend any port as a packet station?—No.

484. But your observation does not extend north of that?—No.

485. Have you ever been into Cork in the night?—Yes. I have been into and out of it at night, when we had not the advantage of the Spit Light vessel, which now is laid down; and I have been in it since in a fine steamer running from Bristol.

486. What lights are there to facilitate the entrance of a vessel into Cork Harbour?—In approaching Cork, after getting into soundings, there is first the "Fastnet" (light-house building); then 5 miles further on, the long accustomed "Cape Clear" Light; then 20 miles further on, "Galley Head" Light (building); and then, 16 miles further, the "Old Head of Kinsale;" and lastly, the harbour point light itself, 15 miles onwards.

487. Supposing the transatlantic packets were to make Cork a port of call, what delay would occur in entering and leaving it to take in or to drop the mail?—From an hour and a half to two hours, for a ship to run into Cork Harbour, and come out again.

488. That would allow them to he half an hour in putting on board?—No; scarcely five minutes. If you allow half an hour for that, you would want two hours. But I assume that she would put the mail into a boat ready to receive it.

489. Would that be the time in all weathers?—In all weathers, certainly,

490. What is the distance from the entrance of Cork Harbour to Passage?—It would be a work of three hours, including stoppages, to go to Passage and back to the offing. It is nine miles from the entrance of the harbour up to Passage—that is an hour and a half run against the tide; and it would take another hour to come out.

491. What would he the variation in time in the voyage by calling at Cork in going from Liverpool or Holybead?—From the offing that a ship would naturally he at, on running from Cape Clear to Holyhead, it would be a diversion from her course of about four hours' run. It would be rounding instead of going forward, on coming abreast of

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Captain Henry Mangles Denham, R.N., F.R.S.

February 7, 1851.

the Old Head of Kinsale, incurring at least four hours' interruption, hy rnnning in from her offing.

492. You know nothing abont the trade upon the coast of Ireland?—Nothing whatever.

493. Supposing a vessel went from Liverpool to Holyhead, could she be sure of reaching Holybead in a given time after leaving Liverpool?—There would he no difficulty.

494. The common time it takes is about six hours; could they be sure always of doing it in seven or eight, rememhering that they would leave the Mersey always with an ebb-tide?—I should say, certainly in seven and a half. There is, however, less certainty attending an arriving vessel; she may reach the Light Ship in Liverpool Bay after half-ebh as likely as any other time of the tide. Therefore, the run from off Holyhead to Liverpool, taken as six honrs, would he nine hours occasionally in each fortnight rotation of tides, if she arrived off Liverpool upon an ebb-tide.

495. You mean between Holyhead and Liverpool?—Between Holyhead and Liverpool. In speaking of what the steamers might do, I estimate them at 10 knots. I consider that 10 knots is the average we can calculate upon reasonably. A steamer at 10 knots would go from Cape Clear to Holyhead in 23 hours. The difference of time hetween the packet landing the mail at Cork, at Passage, and their sending it on to Holyhead hy the Dublin route, and the packet taking it on to Holyhead, gives five and a half hours in favour of the land route.

496. How long do you allow to go across from Dublin to Holyhead?—Five hours. I take the journey from Cork to Dnhlin hy the rail as it now stands, 160 miles, at six hours and a half. I put 25 miles an hour as the rate; of course it could be done under special circumstances much quicker.

497. You allow something for the transfer of the mails from the railway to the steamer?—If I allow two and a half hours for all the changes, it gives the land route from Cork to Holybead only two hours and a half saving.

498. How many hours do you allow from Cork to Holyhead?—Eleven hours and a half. From off Cork to Holyhead hy the sea is 18 hours' run.

(*The Witness withdrew.*)

Wednesday, 12th February, 1851.

The Earl Granville in the Chair.

I. K. Brunel, Esq.

February 12, 1851.

Isambard Kingdom Brunel, Esq., examined.

499. We understand that you are ready to give us some evidence on the subject of our inquiry, which is, first of all, whether it is desirable for the Imperial interests to establish a packet station in Ireland; and if so, what port would be the best adapted for the purpose?—Certainly it is a subject in which I have been very much interested for many years, ever since I first joined in promoting the Great Western Steamship Company, and I should be ready to offer any opinion I have upon the subject.

500. What is your opinion as to the advisability of establishing a packet station in Ireland?—My opinion has always been that no advantage would result from it; but I apprehend that, on the contrary, considerable inconvenience and considerable expense.

501. Do you not consider that it would effect a considerable saving of time?—I think not. I go so far as to say, that I think the arrivals would be somewhat less certain, and that the average of the time of arrival in London, which I take as the central point, would be later through a south-western Irish port than through an English port. I found that opinion upon my calculation of the probable time that would be occupied in passing from London to the most south-western of the Irish ports. I do not know whether, in a nautical point of view, it may be the best, but I assume Berehaven or Bantry Bay as the point offering, at all events, the greatest facilities; and I believe that the average length of the homeward voyages, at all events, taking the time of the arrival of the mail or passengers in London would be greater than if the vessel ran on at once to some south-western English port. I have put down here the calculations of the times and distances which have led me to that conclusion, and I think they will be found to be right. There is one point which particularly affects the calculations, to which I think attention should be paid, which is the probable speed of our Atlantic steam-vessels. I am afraid that I may perhaps be thought sanguine, and may perhaps be even suggesting something which nautical men may think difficult; but I believe that we shall very soon run those large vessels at 16 and 17 knots an hour. I see no reason in the world to doubt that, before five or six years are over, that will be the speed of our best transatlantic steamers.

502. That point has been stated to us hy some of the gentlemen who have given evidence in favour of Irish ports; but while they agree with you that steamers could almost immediately be built going that pace, they have, at the same time, expressed the opinion that those steamers would only be competent to go a distance of about 2,200 miles, and that the addition of a seventh to the journey would make it impracticable on account of the quantity of coal they would have to carry?—I must beg to differ altogether from that conclusion. It reminds me of the most exact calculations which Dr. Lardner produced, by which he clearly proved to the British Association the impossibility of our "Great Western" steam-ship carrying coals even for the voyage to America: that was at a time when she was on the stocks at Bristol; and that

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I. K. Brunel, Esq.

February 12, 1851.

opinion, so expressed by him, interfered very considerably with our means of raising money to build her; but the very first voyage she took a cargo of coals which took her out, and which also, with some 200 tons of coals which she took in at New York, the whole of which she did not consume, brought her home again. Now, in these days, with larger steamers, of the size of the "Great Britain" for instance, I have no doubt it can be accomplished. The "Great Britain" had power to run 17 knots, and could very easily have gone to America, and certainly half-way home again without any inconvenient cargo. Therefore I must beg leave to differ altogether from that opinion, because I doubt the correctness of the calculations upon which it is founded.

503. In speaking of a steam vessel capable of going that rate of speed, do you contemplate a steam-vessel which should only be fit to carry the mails, or one which should also carry cargo and passengers?—Not what would probably be called a cargo steam-ship, but one that would carry as much cargo in proportion as the present steam-packets.

504. What size do you contemplate?—I should not like to venture to say, because I believe we shall keep increasing every year.

505. Have you ever paid much attention to the construction of steam-vessels and their engines?—I was, as I stated, one of the parties who promoted and constructed the "Great Western" and the "Great Britain." I was the principal advising party in it as engineer, and I paid a good deal of attention both to the timber construction in the "Great Western," and then to iron when I recommended the adoption of iron for the "Great Britain."

506. Will you have the goodness to state the calculations you have made with reference to the comparison between an English port and an Irish south-western port?—Referring to the comparative length of time occupied by the mail or passengers in coming from an Irish port to London, or in coming to an English port, and then being landed and coming to London, I think it is necessary, as I before said, to keep in mind the probability of the steam-ships being of much greater power than they now are probably, so that 20 or 25 miles, say 17 to 20 knots an hour, may be considered their probable speed within a few years of the present time. But even taking the lower rate of speed, I believe that no time, upon the average, would be saved, particularly in the homeward voyage, by the vessel touching at the south-west of Ireland. Taking the times occupied by express trains from London to Holyhead, and a probably quick passage from Holyhead to Dublin, the time likely to be occupied from Dublin to Berehaven (I do not know whether that was the point taken as the likely one, but I have assumed it, as, all things considered, the best) will be as follows:—The present express-train to Holyhead averages on the two journeys, backwards and forwards, eight hours and 20 minutes. I assume that everything is done to expedite it, and that it is reduced to seven hours and 20 minutes. Then I have allowed five hours and a-quarter for the passengers or mails going from Holyhead to Dublin, including the Dublin and Kingstown passage, and all the delays of embarking and disembarking, which is quick work. I have been across in the fastest boats, and I have never yet done it quite in that time. I have assumed the journey from Dublin to Berehaven, 230 miles, to be done in six hours, which is also quick work—that is nearly 40 miles an hour.

507. Do you carry the mail's express?—No; the Post Office requires us to stop at so many places with the mails, and they do not choose to pay anything for speed; therefore our mails are not quicker than the other trains; but there is no doubt that, for the sake of expedition, in a few years hence the mails will have increased speed. At those high speeds it would make 18 hours and 45 minutes from London to Berehaven. Now from London to Plymouth would be six hours and 40 minutes, at the same rate as we now travel. I am assuming express-trains upon all the lines.

508. Is the railway to Plymouth capable of taking an express-train at that rate?—Yes; I have gone to Plymouth in six hours and a-half in the express-trains. We have trains that run at that speed; and if any object were to be attained, there is no difficulty whatever, and without decreasing our speed of running. To Falmouth it would be eight hours and 50 minutes.

509. There is no railway to Falmouth, is there?—There is one likely to be constructed. The western portion of the Cornwall Railway is now in progress, and, I believe, the whole will this year be proceeded with.

510. With good gradients?—Very fair; as good as parts of our Cheltenham and Great Western line. There is nothing to prevent the same speed as on that line to Gloucester; then to Milford Haven would be seven hours and 10 minutes.

511. Is there a railway in contemplation to Milford Haven?—There is one making to Haverfordwest, which is within eight or nine miles of Milford Haven.

512. And there is no difficulty in carrying that on to Milford Haven?—We have the plans and sections, and everything ready for carrying the line on to Milford Haven, and I have no doubt this year we shall start it.

513. Does it run through Gloucester?—It does. To Milford Haven, at our present express rates, it would be seven hours and 10 minutes. All these are to be compared with the 18 hours and 45 minutes; therefore, the increased time from London to Berehaven, as compared with Holyhead, will be 11 hours and 15 minutes; as compared with Falmouth, nine hours and 55 minutes; as compared with Plymouth, 12 hours and five minutes; as compared with Milford Haven, 11 hours and 35 minutes. Now the saving of the distance in the sea voyage from America to Berehaven, as compared with these different places, will be, in nautical miles, and in round numbers, as follows:—240 miles shorter than Holyhead, 230 miles shorter than Falmouth, about 260 miles shorter than Plymouth, and only 185 miles shorter than Milford Haven.

514. Do you take the mouth of the harbour, or up to Perobroke Dock?—The town of Milford.

515. Will your railway go to the town of Milford?—Not at present, but it is within a few

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miles of the town of Milford. Then if a speed of about 15 knots, a speed now easily attained, be assumed, the utmost saving, even if Berehaven could be approached at all times by running in at full speed (assuming that that could be done at both ports), the saving at Berehaven over Holyhead would he four hours and 55 minutes; over Falmouth, five hours and 20 minutes; over Plymouth, five hours and five minutes; and over Milford Haven only 45 minutes. If 18 knots an hour he run at sea, then the only saving at Berehaven, under the most favourable calculation, would he two hours and five minutes over Holyhead; two hours and 46 minutes over Falmouth; two hours and 11 minutes over Plymouth; and, as compared with Milford Haven, there would be a loss of one hour and 19 minutes. In coming from the Mediterranean, or any point southwards, where the course is not by Cape Clear, of course Milford Haven would have an advantage, and Plymouth and Falmouth still more. One reason which has guided me, and which has always induced me to form the opinion which I have expressed, but which I hardly venture to mention in the presence of nautical men, is the assumption, which, from our experience of the "Great Western," I believe to be a correct assumption, that in at least half the number of home voyages where the vessel would run direct into Milford Haven without slackening her speed until she came almost within sight of the shore, she could not venture to approach a port on the west coast of Ireland at the same rate, and that the whole of the saving I have mentioned as possible would at once he lost in at least half the number of voyages home. I believe that the "Great Western" steam-ship, all the time that she ran from Bristol, and even afterwards from Liverpool to New York, never failed in making Cape Clear, although she gave it a pretty wide berth, and kept at a very safe distance from it, and then ran direct into the Bristol Channel without any hesitation; but they certainly could not have done so if they had been attempting to make the coast of Ireland.

516. They probably ran for Lundy Island?—I believe most captains familiar with the port would run pretty well for Bristol, till they got sufficiently into the Channel to know exactly where they were. The pilots know immediately where they are from the state of the water and from the soundings; and as, of course, in half the number of return voyages it must be between sun-set and sun-rise when they approach the coast of Ireland, and therefore often in the dark and often in fog, and probably without any observation the day before, I cannot but conceive that, even quite apart from any calculation of distance, on the average of voyages, the vessel would make Milford Haven just as soon as she would make a port on the south-west of Ireland, particularly when high speed is attained; because nobody could venture to run at 15 knots an hour on approaching a coast which they could not see, and did not know exactly where it was. The practical difficulties and expenses also attending an Irish port are very much felt by all those who, like myself, have had money in steam boats. The expense of using it as the final port for the vessel would be very great indeed; the distance from all machinery and supplies of every sort would he very expensive.

517. How would Milford be situated in those respects?—At Milford they are in close communication with iron and coal districts. The best steam coal might he brought hy railway to the ship's deck, and in Merthyr there are the largest iron-works in England.

518. Do they manufacture chain-cables there?—Yes.

519. And steam-engines of all kinds?—Yes, a number of steam-boat engines have been made at Neath Abbey, but the railway would put them in direct communication with all the manufactories.

520. Is any iron carried hy those fast-going steamers?—I think they have taken out chain-cables and manufactured iron.

521. How would Milford be off for docks and means of repairing vessels?—There is Pembroke Yard close by, which was the only graving-dock into which we could get the "Great Western" at one time.

522. Is there any dock at Pembroke fit to receive a large steamer?—The graving-dock there received the "Great Western." I do not know whether it is large enough to take the larger vessels which have been built since. I doubt whether there is one yet that is fit for that purpose: we are about to build one at Plymouth.

523. Supposing that your calculations were shown not to be quite accurate as to the amount of speed, from your experience which do you think would generally have the preference of the public; whether the saving of 12 hours in the sea-voyage, or the embarking at once in the vessel which is to carry them across the Atlantic?—I believe that any steamer running to America that should start from an English port would completely deprive the other of passengers or cargo. I think there would be no chance of competition. I believe that scarcely any passengers would go by the Irish packet except Irishmen. The only way now to carry on the trade to America, particularly after the effect of this year, will be by cheap fares, probably 15*l.* or 20*l.* fares, or less. Of course, the expenses attending upon railway communication, if the passengers were carried across to any south-western Irish port, would at once destroy competition between two vessels, even if the difference were 12 hours. But I cannot admit that, under any circumstances, the difference will exceed three hours between Milford Haven and an Irish port, and I believe the average would be the other way.

524. In your calculations you have taken exclusively London as the point to which it is desirable to get the letters soon. Is not there an additional object? Supposing a south-western or western port of Ireland were taken, would there not he an advantage in distributing earlier the letters and passengers belonging to Ireland, and would not also the letters destined to the great manufacturing districts of Lancashire and Glasgow be more speedily obtained than by a southern port?—Decidedly; I think, as far as Liverpool and the northern towns go, that, of course, is very important, and that would make an addition to those savings of five or six hours. To Liverpool, of course, it would make more, but I am averaging it over the whole.

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I. K. Brunel, Esq.

February 12, 1851.

525. Do you think that a packet going from Milford could compete with a packet going from Liverpool, with regard to passengers and freight?—I think it would compete, but I think that the two would answer very well. I do not think that all going from Milford would suit the public convenience.

526. Do you think that the Milford packets would carry as much freight and as many passengers as the Liverpool ones would?—Not so much freight.

527. Or as many passengers?—Assuming that the number of steam-boats going is still limited as compared with the general demand for shipping, then I think that the packets going from Milford would command their full freight. There is a very large district with which they would be in direct communication, which exports to America; there is all South Wales, and there are the Midland counties, from which the distance is not considerable.

528. But all the manufactories in Lancashire and Yorkshire would have an advantage in the vessels going from Liverpool?—In the home freight from America the northern ones would have the advantage.

529. Do not they bring great quantities of goods and passengers in going homewards?—I am speaking, for the moment, of goods. I should think that Liverpool must command more, of course, but as long as we are considering only the mail packets, and not talking of a general steam commercial navy (which, no doubt, we shall come to ultimately)—as long as the amount of steam navigation is limited, compared with the shipping generally, I think that either Milford or Liverpool would command a full cargo.

530. Some of the packets belong to the United States, and some to us; the only thing that we can deal with is the British. If the British packets were transferred from Liverpool to some other port, say, to Milford Haven, and the American packets ran from Liverpool, would the British packets running from Milford Haven be able to compete with the American packets from Liverpool in passengers and freight?—They would each have a supply. The Liverpool packets would, of course, carry all those passengers whose convenience led them to Liverpool towards the end of their stay in England, and north-countrymen going over to America; but there is an ample supply of men, who, after doing their business in the north, either visit the Continent or come to the south. I should say, that a common course of an American merchant is, that after doing business in Liverpool he spends some time in town, and takes a trip to the Continent, and he is as likely after that to start homewards from the south of England as from the north.

531. With regard to freight, we have been told that the greatest portion of the freight carried in the present mail packets comes from Lancashire, Yorkshire, Scotland, Hull, and Southampton. With respect to all those goods, except those coming from Southampton, how would they reach Milford, and what expenses should you think would be incurred in their being carried there?—Nearly all that goes from Southampton at present comes from the north, and Milford would not be more distant, or very little more.

532. Except the goods that come from France, and from other parts of the Continent?—With that exception. With respect to the exports from Southampton, which come from the north, there would be very little difference in the cost between Southampton and Milford. Milford could not, of course, compete with Liverpool in the cost of conveyance of anything that came from the north. There might be probably an average of 1*l.* a-ton difference in reaching Milford, as compared with Liverpool, for anything coming from the manufacturing districts in the north. I was comparing Liverpool rather with the south-west of Ireland. I am not by any means prepared to say that Liverpool would not be a very good port for transatlantic steamers; I believe, however, that if they began to run from Liverpool they would in time stop at Milford Haven; therefore, so far as I am interested in Milford Haven, I should look forward in that case to very soon getting them; but I think, in the mere question of expense of freights and cost to passengers, Liverpool would run Milford Haven very hard, but in point of time, for the public service, Milford would have the decided advantage.

533. Supposing the packet station were still kept at Liverpool, but that it called at some other port for the mails, putting the Irish ports out of the question, would there not be greater advantages in calling at Holyhead than at Milford Haven?—If the vessel goes to either Liverpool or Holyhead, my own present impression would be that Holyhead would be the best. If it does go to the north, I should assume that Holybead would be the place of final departure and arrival. She could always go to Liverpool for repairs for any work to be done there.

534. To start from Liverpool, but to take her final departure from Holyhead?—If that course were adopted, I should expect that after a few months' practice it would end in her not going to Liverpool unless when obliged to go there for repairs.

535. You think she would carry everything to Holyhead and stop there?—Yes.

536. Would you have to build a wharf at Milford for these vessels?—I should think that some extensive works would have to be executed there.

537. So there would at Berehaven, even if there were a railway there?—Yes. At Plymouth there will now very shortly be accommodation, by a dock at Mill Bay, and I dare say there will soon be at Falmouth.

538. Where will they get water at Falmouth?—They have an Act of Parliament for the execution of works there, the object of which was to get a considerable increased depth of water.

539. Is the Plymouth work in active progress, without any impediment?—It has been stopped for some months, but it is likely to go on now.

540. And to afford accommodation for large steamers?—Yes; we hope to get some of the transatlantic steamers and Cape vessels to go there. We have a deep-water pier there, with 50 feet water at low-water spring tides inside the pier head, and in smooth water.

541. What is the length of the pier?—The pier must be about 400 or 500 feet. We are building new docks there, with 80 feet gate entrances, and a graving-dock 400 feet long.

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542. Did the "Great Western" always make Cape Clear?—I think she never missed making Cape Clear, and having once made Cape Clear, if she made it in the daylight, she could run in the night to Bristol, or Liverpool, or anywhere. *I. K. Brunel, Esq.*, February 12, 1851.

543. Is not the prospect of a railway to Berehaven very remote?—If the Government recommended Berehaven as a packet station, I suppose a railway would be made to it.

544. There is a railway to Galway?—Yes; but I have considered Galway out of the question.

545. Can you give any reason for that?—Perhaps it is only a prejudice.

546. As regards the harbour?—As regards the harbour, and particularly as regards the approach.

[*The Witness withdrew.*]

SATURDAY, 15th February, 1851.

The Right Hon. the Earl GRANVILLE in the Chair.

James Perry, Esq., examined. *James Perry, Esq.* February 15, 1851.

547. Are you well acquainted with the west coast of Ireland?—Not particularly so; I have been along the coast, but I am not at all acquainted with the nautical capacities of it except from maps, and from observation and information obtained from others.

548 Have you turned your attention to the practicability and desirableness of establishing a packet station upon the west coast of Ireland?—Yes, I have for some years.

549. Will you favour the Commissioners with your views upon the subject?—My attention was first directed to it by the fact of its being geographically the most westerly part of the empire. I have been for some years interested in promoting the construction of a railway to Galway, which is now nearly completed; and I always entertained hopes that when that railway was completed, and when railway and steam communication should be established from the port of Galway to all the large trading ports and towns of the empire, it must, from its situation, possess great advantages for a western packet station.

550. Do you apprehend that some considerable advantages would accrue to the commercial interests of Ireland if Galway were substituted for Liverpool for the purpose of the embarkation and disembarkation of the North American mails?—There cannot be a doubt of that. The correspondence and passengers belonging to Ireland at the present day have to go back to Liverpool to start for America. We had a public meeting upon the subject in Dublin about a fortnight ago, and there was Mr. Kennedy, a manufacturer of Belfast, who stated some very important facts with regard to it. He is himself a large manufacturer of sewed muslins, which are now manufactured in very large quantities in the north of Ireland, and America is his principal market for them. By mere accident, some two or three years ago, he discovered the market to which a large portion of his manufactures are sent, and opened a direct communication with it. But he has now to send his goods to Liverpool in order to send them from Liverpool to New York: he has to send them back instead of sending them forward. He can send his goods to Galway with as much or more facility than he can send them to Liverpool. There would be a saving of expense and a saving of time.

551. Do you apprehend that many goods are transmitted from Belfast to America by Cunard's mail steam-boats?—No, I do not think there is any considerable quantity; there are some; but the very high rate of charge which Cunard has hitherto been making for his freights has been almost prohibitory except under peculiar circumstances. The general rate of freight has been about 7*l.* a ton, and that with the expense of about 1*l.* a ton from Belfast to Liverpool is almost prohibitory except where time is very important.

552. Can you give us an idea what the freight is between Belfast and Liverpool?—I think 1*l.* would be a fair average; for some description of goods at present it is not more than 10*s.*

553. What would it be from Belfast to Galway?—From Belfast to Galway it could be done at about the same rate by railway.

554. For 20*s.*?—Yes; we expect a communication to be established between our Midland Railway and the northern railways, which, though not very direct, will give continuous railway communication from Belfast to Galway.

555. You contemplate making that junction?—Yes.

556. And there is no great difficulty in it?—No; I have no doubt that if Galway were established as a packet station that communication would be made. Indeed, independently of that, I think it would be made in two or three years under any circumstances. I contemplate, also, that we shall have steam communication between Glasgow and Galway, if Galway be established as the starting point.

557. Do you know what will be the rate of charge by those two railways?—Our railway to Galway is not quite completed.

558. What is the usual charge for goods by railway?—About 2*d.* a ton; that is the average charge for bale goods. The average rates on the railway are from 1*d.* to 3*d* per ton per mile; and 2*d.*, I think, is the price that you may safely calculate upon wherever there is competition. Coals are carried for half that, and manure is carried at from a halfpenny to a penny.

559. What are the advantages that you would anticipate from the goods going from Belfast to Galway by railway rather than by ship to Liverpool. You do not say that it would be a cheaper transit from Belfast to Galway than from Belfast to Liverpool?—No, about the same; but the advantage I contemplate is that when they are at Galway they are at least 350 miles

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James Perry, Esq.

February 15, 1851.

nearer to their point of destination than they are at Liverpool; in the one case they are going on their way—in the other case they are going back.

560. Would there be any difference between the railway and the sea conveyance as to risk of damage and loss by depredation or in any other way?—With regard to loss by depredation, there is very little risk indeed. With regard to the sea risk, the difference would be very great indeed. I cannot illustrate that better than by saying that the present rate of insurance from Liverpool to Galway is about the same as the insurance from Liverpool to New York, the risk and danger being nearly all considered to be incurred in the Channel before they get clear of the Irish coast.

561. Is not that owing rather to the great risk of the voyage being in the leaving and making the land?—There is so much more of coasting and channel voyage in coming from Liverpool through the Irish Channel.

562. What class of vessels does that apply to?—I take the ordinary class of sailing-vessels in both cases.

563. Do you think the insurance would be the same with a large steamer going from Liverpool to New York?—It would be less from Galway to New York than from Liverpool to New York, I have not a doubt of it.

564. When you say that the insurance is as much from Liverpool to Galway as it is from Liverpool to New York, would not that rather imply that the navigation to Galway is not a very good one?—I do not speak of Galway particularly. I speak of Limerick and Cork, or any port on the western coast of Ireland. I mean that the dangers of the Channel navigation are so great as to cause that high rate of insurance. Probably there should be some credit given for the fact that there is a superior class of vessels employed in the American trade to that employed in the coasting trade; but, allowing for that consideration, you will find the rates as nearly as possible the same.

565. You alluded to the quantity of goods that Mr. Kennedy had to send to America; are those sent by the packet or by the ordinary sailing-vessels?—He sends occasionally by steam, but the larger quantity by the sailing-packets. The sailing-packets charge about 2*l.* a ton, and the sailing-vessels about 1*l.*, and the steam-packets about 7*l.* Mr. Cunard mentioned to me within the last day or two, that they contemplate a reduction in their freights. I should think from 4*l.* to 5*l.* would probably be the amount in future.

566. Do the goods sent from Belfast to America generally go direct from Belfast, or do they go by way of Liverpool?—They generally go by Liverpool.

567. Then they have not business enough to send vessels direct from Belfast?—Not for frequent despatch. They have occasional vessels; but the trading-vessels and sailing-packets go almost two or three every week from Liverpool; therefore they are always sure of despatch from Liverpool whenever they send them over.

568. Are you aware what other trade there is from Ireland to America except from Belfast?—I do not think there is much export from Ireland except from Belfast. We have hardly any export from Dublin, and from Cork there is very little. Belfast is the principal port. The manufactures of Ulster are the principal exports that we have from Ireland to America.

569. The timber-ships come direct from America to the Irish ports?—A great many timber-ships. The principal export that we have had for the last three or four years has been, unfortunately, our own population—our emigrants; and, with regard to them, I think, the establishment of a packet station on the west coast of Ireland would be a very great benefit indeed. There is a vast loss of life and a great amount of suffering at present in the way in which it has been carried on; and the expense is such as would pay for doing it in a much better way. The average charge for emigrants from the principal ports of Ireland may be said to be about 3*l.* a head. Those people cannot venture to go without at least six or eight weeks' provision, as the average voyage is over eight weeks. That, at the lowest rate, must make it 3*l.* a head more, so that the lowest expense is from 5*l.* to 6*l.* a head. And it is a matter of public notoriety what a lamentable loss of life there is from time to time in this traffic. I do not think that you could make mail steam communication available for the lower class of emigrants; but I think there is a very large portion of the better class of emigrants,—farmers and mechanics, and persons of that class in life,—who could better afford to pay, say 10*l.*, for a passage from Galway to New York, which they could accomplish with certainty in from seven to ten days, than to go by the present route. They would save a vast deal of suffering and a vast deal of time. I have long been of opinion that that is a part of the subject that is very well deserving of consideration. I believe that great benefit might be conferred upon travellers of that class from both countries, with profit to the owners of the vessels. I am satisfied that the space now occupied with goods, say at 4*l.* to 5*l.* a ton (taking that to be the probable price that may be charged in future), could be made to pay quite as well by converting it to accommodation for the class of passengers to which I allude.

570. Why do not they adopt that plan at present. How do you account for their having no second class lower than 20*l.*?—Twenty guineas is the lowest. They have a tolerably good portion of goods; and, with the price that they have fixed for their first-class passengers, it would not be prudent for them to fix so low a rate as ten guineas for their second-class, and consequently they get very few second-class passengers: they go by the sailing-vessels. But if half the pace now appropriated to carrying goods were appropriated to carrying passengers, it could be done with quite as much profit to the vessel and with great advantage to the public.

571. Then why have not they done it hitherto?—It has not been done hitherto; and I think the reason must be what I have stated.

572. Do not the superior order of second-class passengers, who pay the rate of from 4*l.* to 6*l.* (which the Emigration Board state is the average cost including provisions) usually carry a large quantity of luggage which they can get taken in a sailing ship, but for which

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they could not get accommodation in the steam-packets?—No. I believe it is found by experience that they can provide themselves with the things they want at New York cheaper than they can carry them out from here.

573. Do not they carry out agricultural tools and different articles connected with the business which they mean to follow in America?—That is occasionally done; but I do not think it is generally the case. But I do not allude so much to the poorer class of emigrants who now get over for the expense of from 4*l.* to 6*l.*, and many of whom are sent over by the unions; I allude more to the class of small farmers and working mechanics, and persons of that kind, to whom it would be economy to get out in a steamer for 10*l.*; because when a man gets to America, his time is worth, at least, a pound a week; and if he is a mechanic, it is worth double that. If he is three or four or five weeks additional upon the voyage, he loses as much time on board the vessel going out as would nearly pay his whole passage out. That is a class of people who go with some money in their pockets.

574. Do you think that that class is likely to be considerable for the next few years?—I cannot entertain a doubt of it. With the large number of emigrants that are going out, and the intercourse and constant communication that there is between the two countries, I think the rates of labour will equalize themselves very much in a few years with a good communication between America and Ireland. With reference to the advantages of Galway as a packet station, I have made a short memorandum, which if the Commissioners please I will read. The circumstances in favour of Galway, as compared with Liverpool, are a saving of time of at least 12 hours, with greater certainty and regularity; a shorter sea voyage by at least 350 miles—say 30 hours as the average of the Channel navigation—that is 12 miles an hour. I know that Mr. Cunard says, that in returning home it is very often the quickest part of the voyage. That is in consequence of the vessel being then very light. On the contrary, when they are going out, they are very deep in the water in that part of the voyage; and in going against the prevading wind, he will admit that the disadvantage is much greater than the advantage coming home; and that on the average he would not gain quite so much as I allow. From the time that the vessel leaves the port of Liverpool till she gets into the longitude at Galway, is on the average over 30 hours. I assume it to be 30 hours for the comparison. Then I say that the reduced quantity of coals necessary to put on board the vessels at starting from Galway would be at least 120 tons. Mr. Cunard estimates the consumption of his vessels at about three tons per hour; but the new vessels for Collins's line are said to consume five, and some I believe as much as six, tons per hour; therefore the saving of the cost of 120 tons of coals, at 15*s.* a ton, which is about the average of the Welsh coal which they burn, would be 90*l.*, and the additional freight-room, at 5*l.* a ton, in place of the 120 tons of coal which would be saved, would be 600*l.*, so that there would be a saving upon the voyage of 690*l.* Then I admit that goods-freights cannot be expected at Galway under equally favourable circumstances as at Liverpool; but the cost of the conveyance of goods between Liverpool and Galway would not exceed 30*s.* per ton. I have been speaking to the City of Dublin Steam Packet Company upon the subject, and I think it is very likely that they would contract to do it lower than that; but that would be the maximum price for removing goods from the quay at Liverpool to the steamer's hold at Galway, all charges included. The saving I have mentioned would, therefore, cover the cost of transmission of 460 tons of freight from Liverpool into the ship's hold at Galway. So that even supposing that the whole of that 460 tons of goods had to come from Liverpool to Galway, the saving from the reduced quantity of coal necessary to be put on board, and the space which that would leave available for additional cargo, would cover the cost of transporting it from Liverpool to Galway. There is, however, another source of traffic, which, under proper arrangements, would doubtless prove an ample equivalent for any disadvantage in goods-freights—that is, by applying a portion of the space now devoted to goods to the accommodation of second-class passengers, for whom there is scarcely any accommodation in the present vessels; and at the extravagantly high rate of 20 guineas per head, such is very little sought for. The space required for a ton and a half of goods should be sufficient for a passenger. Sixty cubit feet is about what a passenger gets in a sailing-vessel; but in order to afford wholesome and comfortable space, say one passenger in the place of every two tons of goods. The present vessels of Cunard's can carry about 800 tons of goods. If we suppose that about one-half of this space be appropriated to accommodate second-class passengers, it would give 200 passengers at 8*l.* each for the freight, and 2*l.* each for food, &c., supposing you take ten days' food, which would be equally profitable as goods to the vessel, and be a most important public advantage. And at this rate of 10*l.* per head, or thereabouts, I am of opinion that there can be no doubt that, under proper arrangements, a full supply of passengers of this class could be had from Galway. A very large portion of the emigration of the United Kingdom goes from Ireland. There is one thing which is not included in the average cost of 4*l.* to 6*l.* per head for emigrants: a very large portion of these emigrants have to go from their homes in the south and west of Ireland to Liverpool, and they remain at Liverpool sometimes a week or more waiting for the vessel. Sometimes they spend half as much before they get on board as their passage across the Atlantic costs.

575. And they are dreadfully cheated there very often, are not they?—Very much indeed; and this could be done without any material interference with the comforts of the first-class passengers. Indeed this is a species of accommodation which the rapidly increasing intercourse appears to me to render indispensably necessary. I have no doubt, looking at what has occurred between Dublin and Liverpool in my own time, that whoever lives to see 10 or 20 years hence will see a very large traffic indeed. I recollect when steamers were first started between Dublin and Liverpool, the opinion of all the sage men of the day was, that they could not get passengers for them; that there were not, upon the average, more than from six to ten persons a-day crossing between Dublin and Liverpool. Now we have at present four or

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James Perry, Esq.

February 15, 1851.

five vessels daily between Dublin and Liverpool, upon the average, in addition to three between Kingstown and Holyhead, and each of those vessels carries a fair number of passengers—far more, each of them, than the whole daily number that were supposed to go originally.

576. You have made a calculation for taking an additional number of passengers by taking a less quantity of coals. Of course, the more passengers you have the more provisions and water you must have; have you made any allowance for that?—Not for the provisions and water. If I make an allowance of two tons for each passenger, I think I make ample allowance for that. The allowance of an emigration ship is two passengers to three tons. I give two passengers to four tons. If the space is devoted to passengers, the vessel is not so deep in the water proportionately as if the space was occupied with goods. My opinion was founded on information I had that two passengers to every three tons was a kind of admitted standard, and I gave one-third more in order to give a better class of accommodation. Then, with regard to docks, I was speaking to Mr. Cunard upon that subject, and I think his observations with regard to the necessity of having the means of examining a vessel every voyage are unanswerable; that, in fact, the traffic cannot be conducted without docks. With regard to that, I was speaking to one of the members for Galway last evening upon the subject, and from what he tells me of the state of things there, and from the position of our railway undertaking, and the interest we feel in it, I have no doubt that docks can be provided, and will be provided, if we are only assured that they will be wanted. Upon that subject I have noted down this observation. It is stated that the want of docks and facilities for repairs at Galway is an insurmountable difficulty, as docks of extraordinary magnitude are required for the American steamers. Mr. Cunard tells me that the new line, Collins's steamers, require 80 feet dock gates, and 20 feet water. There is nothing in the kingdom equal to that. They are constructing one at Liverpool. Docks of the extraordinary magnitude required for the American steamers being so much larger than are required for sailing-vessels, or for any other purpose, cannot be expected to be formed unless there be a certainty of the port being adopted for the packet station. But when this shall be decided, immediate measures will be adopted for their construction; and I do not entertain any doubt that they will be provided with great despatch and promptitude. I think I am quite justified in saying that.

577. Is there water enough at Galway for such a dock as is required?—I am not sufficiently an engineer to answer that. I believe there are great natural facilities at Galway, but I am not able to speak with certainty as to that. I did not go fully into that subject with our engineer, but from conversations which I have had with him upon the subject, and from what I have heard from other parties, I see no reason to entertain any doubt that it can be accomplished if we are informed that it is desired. I think there is no doubt, from what I have seen and what I have heard of the harbour of Galway, that there are great facilities for the purpose. Lough Athalia seems to be almost a natural dock as it stands. The saving of at least twelve hours in the passage to America by starting from Galway must prove a most important object in the competition now commenced by the Americans for the conveyance of the mails and passengers; and this advantage once established, must secure to the parties possessing it a decided preference, particularly for letters. For telegraphic communication the advantage would be very much greater. We are about to have a telegraphic line completed on our railway by the 1st of August next, when the railway is to be opened.

578. Have you got it carried as far as Mullingar?—No, we have not commenced the telegraph. We desired to wait till the latest moment in order to avail ourselves of any improvements which may be made in it.

579. Have they a telegraph upon the Kingstown line?—Only from Dalkey to Kingstown, in connexion with the Atmospheric Railway.

580. Will the railway be opened right through to Galway by the 1st of August?—Yes, it will.

581. The greater part of your statements appear to refer to the west of Ireland generally; do you think Galway the best port, or would you apply your remarks to any port on the western coast of Ireland?—The same principles would apply to any part of the western coast, if there is a better harbour than at Galway, and better circumstances altogether for this purpose.

582. You speak of the harbour of Galway; where is it?—What I have been accustomed to consider the harbour is that portion of the Bay of Galway within the islands of Arran. What would be strictly so considered by a sailor is the small bay which lies within Mutton Island.

583. Is there any place where a vessel could lie-to in a gale of wind?—I do not profess to be versed in the nautical part of the subject. I derive my ideas from information and from general experience. I have latterly understood that to make the harbour of Galway a really good one, and perfect for a packet station, it would be desirable to carry out a pier from Mutton Island, and that then you would have a harbour that could hardly be surpassed.

584. As regards Galway itself, you consider that it is particularly favourably circumstanced as compared with other Irish ports?—I do not think there is any other port possessing the same advantages that Galway does; in fact, a line westward from Liverpool to New York would almost touch Galway: it is almost in a *straight* line. One of the advantages I have always thought strongly in favour of Galway, was the circumstance of its possessing soundings so far off shore. I recollect the Knight of Kerry was very anxious at one time for Valentia. One of the objections that always appeared to me to be put forward with great force against Valentia was the impossibility of a vessel ascertaining her exact position from want of off-shore soundings; but I take it, that the communication could not be commenced without constructing docks at Galway. Mr. Cunard tells me, and I have no doubt of it from my own experience on a much smaller scale, that it frequently happens that vessels have to go into dock, although for very trifling causes; but I still hope that the natural advantages possessed

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James Perry, Esq.
February 15, 1851.

by Galway and its bay leave much less to be done to make it perfect than in any other place on the western coast. There is of course great advantage in getting so far westward by land, because every mile travelled by land is travelled in half the time on the average that it takes by water. The average speed by railway is at least 30 miles an hour. Take the Holyhead line: Holyhead is 270 miles, and it is done rather under nine hours generally. You leave London at nine in the morning, and you are on board at Holyhead at six.

585. When does the mail that leaves London at eight in the evening get to Holyhead?—That goes round and stops at Chester, &c.; but the express-trains come down in about eight hours; but if a communication of this kind were established, of course it would go by the quickest trains.

586. You are aware that docks at Galway would cost a considerable sum of money?—I am aware that they must be very expensive.

587. How do you think it would be done?—I think on the security of the existing docks and the town property of Galway, which they are quite willing to pledge for it, with the aid of the Railway Company, the necessary funds would be obtained.

588. On the security of the profit to be derived from the work?—Not merely from the work, but on the security of the existing docks and the town property.

589. Are not the existing docks already pledged for the debt?—They have paid some part of the principal, and with their present receipts they are going on paying off their instalments of interest and principal quite regularly, I am informed. So Mr. O'Flaherty, who is one of the Commissioners, told me last evening.

590. You have not formed any idea of what would be the expense of those docks?—None whatever at present. Mr. Cunard's present vessels do not require docks within 10 feet so wide as the more recent vessels. Their principal object in increasing the size is to get increased speed; then if we save 12 hours, which is admitted, even on the most unfavourable calculation, from the west of Ireland, that is equal to a saving of a mile an hour on the whole distance across the Atlantic.

591. As they increase the speed of the steamers, that will diminish the difference in time between Liverpool and Galway, because it will bring the sea voyage more to approximate to the rate of the railway?—So far it will; but you can never go in a direct line by a steamer; you are obliged to form an angle in coming into the Channel and getting out.

592. But you have allowed for that in the distance you have spoken of?—Yes.

[*The Witness withdrew.*]

Richard Griffith, Esq., examined.

R. Griffith, Esq.
February 15, 1851.

593. You are chairman of the Board of Public Works in Ireland?—I am.

594. You are well acquainted with the western coast of Ireland?—I am.

595. And with the whole of Ireland?—I think so.

596. Have you turned your attention to the subject upon which this Commission is appointed to inquire?—I have.

597. Will you state to the Commissioners what would be necessary to render the port of Galway fit for the reception of steam-packets drawing 20 feet water?—It would be necessary to connect Mutton Island with the mainland, and to project a pier of considerable length, to keep off the operation of the Atlantic wave, which comes with great force down Galway Bay. I can give no estimate of the expense; but I have consulted the charts, and know the practicability of it.

598. Does the locality present facilities for carrying on such a work?—Yes; there is plenty of stone, both granite and limestone.

599. Do you consider that the pier that it would be necessary to run into deep water from Mutton Island would be a very extensive work?—It would be a considerable expense, because it would be of considerable length; of course, the expense would be in proportion to the depth of water required at low-water. I contemplate the eastern side of it being a wharf, and the western side a breakwater.

600. Does the port of Galway possess great facility for docks?—Not very great, because the bottom is rock; it consists of a kind of semi-igneous rock, which is more difficult to excavate than any I know.

601. It would be a considerable expense to make docks there, to have deep water?—I think it would.

602. More than at most places?—More than at most places.

603. Are the docks, at present, very much exposed to the swell from the Atlantic?—The entrance is very much exposed in south-west winds, which are very constantly blowing there.

604. Can you say what are the capabilities of the present dock, as regards the depth of water, and the width of entrance?—I think the entrance is either 50 or 55 feet. I think it is 16 feet depth of water, at high-water. I have already sent to the Commissioners a chart which contains all the information relative to the depth of water.

605. Can you state what is the position of the debt to the Government upon the docks?—I have not the particulars in my mind so as to enable me to specify accurately the facts, but I will send them.

606. What is the present state of Foynes?—The harbour of Foynes is sheltered from all winds; and vessels could now lie at anchor in 22 feet water, at low-water spring-tides. A pier has been completed, and it has 10 feet water at low-water spring-tides; but by means of the construction of a wooden platform, on piles, a timber jetty in addition to the pier, which would cost about 1,000*l.*, you could have 19 feet water at low-water spring-tides.

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R. Griffith, Esq.

February 15, 1851.

607. With regard to the approach to Foynes; is that good?—There is no difficulty in the approach to Foynes, except the general difficulty of river navigation. I think it is as favourable as any of the western ports for getting in.

608. There is a great rise of the tide in the Shannon?—There is 17 feet.

609. Of course that leads to great rapidity, occasionally, even in Foynes Harbour itself?—Foynes Harbour itself has, perhaps, the greatest scour on the Shannon; the water runs very rapidly in the narrow channel between the mainland and the island, but it is always smooth water.

610. There is no railway there, yet?—No.

611. Would there be any difficulty in making a railway there?—None whatever; there is an admirable line of road constructed from Limerick, and it is very level. A railway could be made parallel to that road, all the way.

612. What would be the point at which the railway would branch off from the existing railway; would it be in the town of Limerick?—It would be just a little beyond the terminus, so as just to keep outside the town of Limerick; it would start half a quarter of a mile from the terminus.

613. There would be no difficulty in the ground?—No difficulty in the ground; it would be a descending line all the way.

614. What are the advantages which you conceive that Foynes has over other ports in the Shannon?—There are other ports in the Shannon; but there are none of them so easily available as Foynes. Tarbert is more seaward, and capable of being made a much larger harbour than Foynes; but at Tarbert you would require a pier both on the east side and on the west side; it is very much exposed to the roll of the Shannon, when the wind blows from the north-east. It would be necessary to put a breakwater on the north-east, and to make your great pier on the west side.

615. Would that be a very expensive undertaking?—It would be a very considerable expense. It was one of the objects that was proposed for the improvement of the lower Shannon by the Shannon Commissioners; but it was abandoned, because, though the Government offered to give one-third of the money, neither the proprietors nor the district were willing to contribute the other proportion.

616. Do you conceive that Foynes affords better shelter than Tarbert?—I apprehend that Foynes is perfect; it is not exposed to any wind. The current is heavy there, but it is a capital anchoring-ground. My objection to Foynes is, that it is a narrow channel, and there is no great capacity for a number of vessels. As a permanent harbour, it is certainly too narrow for this purpose.

617. At what rate do you think the tide runs in there at spring-tides?—I cannot speak to that; I could ascertain that fact. I think it is in some of the Shannon Reports.

618. Do not you turn out of the Shannon at right-angles to go into the bight of Foynes?—No; it is a little to the right, but a very small angle. The Shannon comes round the island. The great mass of the Shannon is to the north of the harbour of Foynes.

619. What causes the tide to run so rapidly there is the sudden contraction of the water?—Exactly; the tide comes in more rapidly, as it has a narrow neck to go through.

620. The difficulties of the navigation of the Shannon commence immediately above Foynes?—Yes, that is where the sunken rocks, and the shoals and twists are; and sometimes you have a very heavy tide—a very heavy flood.

621. Must not the great floods in the Shannon affect the navigation?—Not so low as Foynes; but above Foynes they do. I have frequently seen the floods coming down this channel, and though the tide was running out, and it was past high-water, the water was rising still.

622. Is the basin finished at Foynes?—Yes.

623. Have they much traffic there?—None at all; I would not let them in till it is excavated.

624. Is there any light near there?—There is no light nearer than Tarbert. There must be a light put there.

625. When a vessel was lying alongside the wharf, would not the tide be so strong that she could hardly lie there?—She could not lie there without anchors.

626. At Tarbert there is no difficulty of that kind?—No; Tarbert is a fine harbour.

627. Are there facilities for carrying on works at Tarbert?—No; there is no breakwater stone at Tarbert. It is a very bad place for stone.

628. Is all the other side of the Shannon bad for stone?—Yes; it is a thin flaggy stone all the way. But at Foynes there is the finest quarry in Ireland; otherwise, we could not have built such a magnificent work as that for double the money. We send stone from Foynes up to Limerick.

629. Is the pier at Foynes founded on rock?—No, it is founded on piles; some of them went down 22 feet.

630. Do you then come to rock?—Not to rock, but to hard gravel.

631. Is this pier protected from the rush of the tide?—Yes; it is perfectly still water there.

632. With regard to the docks at Limerick; in what position is the debt upon them?—A very large sum of money has been expended by the Government, to the amount of 100,000*l.*, and the present docks are being executed with an additional grant of 50,000*l.*, which is also to be paid; so that it will make 150,000*l.* I believe there is no portion of the principal yet repaid, and the interest is very imperfectly paid; but the receipts increase very rapidly.

633. And you anticipate that the docks will be very useful?—I hope so; they will be a great advantage, because sharp vessels cannot lie in Limerick upon the ground, but they will be able to lie in safety in the docks.

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R. Griffith, Esq.
February 15, 1851.

634. What are the capabilities of the docks at Limerick for large steamers?—The docks at Limerick have 16 feet water at all times of the tide, and 22 feet at spring-tides.

635. Over the sill of the gate?—Over the sill of the gate; and if it were necessary, it could be made 22 feet at all times by excavating. It is a silty bottom.

636. What width is the entrance?—50 feet.

637. Is it possible to enlarge that width?—Yes, it is possible to make it 80 feet, if you please, by making a double-constructed lock, the upper part being 80 and the lower part 50, so as to allow the paddles to go over.

638. Without increasing the expense very materially?—Without materially increasing the expense.

639. Therefore, supposing the large transatlantic steamers were to disembark the mails either at Tarbert or at Foynes, you see no difficulty in their going up to Limerick at high-water in order to be docked?—I do not see any objection or difficulty in docking at Limerick itself, but it would require a good deal of attention to prepare the channel for the reception of vessels of that size in coming up. There are shoals and rocks in the bed of the Shannon. There is water, but they must come at the top of the tide. Of course vessels coming up for the purpose of docking would come up at their leisure, in broad day or at the spring-tides. Therefore, there would be no difficulty in that.

640. What is the state of the river up to Limerick for navigating large steamers?—For navigating large steamers at all times of the tide, and all times of the day and night, the river would require deepening in many parts, and buoying. But for a vessel only coming up for dockage, and which could suit its own time, a very large vessel could come up without danger with the river in its present state.

641. Those vessels could never come up to Limerick at all times of the tide?—No, they could not, possibly; the river is too shallow.

642. Would not it require certain impediments to be removed, and a number of buoys to be placed, and the river to be deepened, to enable them to get up?—Certainly. It would not be very expensive to remove the stones.

643. You could never make a night navigation of it?—No.

[*The Witness withdrew.*]

WEDNESDAY, 19th February, 1851.

The Honourable WILLIAM COWPER, M.P., in the Chair.

Thomas Lloyd, Esq., examined.

Thomas Lloyd, Esq
February 19, 1851.

644. You are chief engineer under the Admiralty Department?—Yes.

645. Supposing that the transatlantic packets were removed to a port on the west coast of Ireland in which there were good anchorage but no dry dock, do you consider that the want of such a dock would occasion any danger, any great increase of expenditure, or any interruption of the mail service?—No, I do not consider that a dry dock is at all essential. It is a very convenient thing to have, but by no means necessary.

646. You do not apprehend that any interruption of the service would be produced by the want of such a dock?—Clearly not.

647. Will you state what you consider would be the inconveniences from the want of such a dock?—The greatest inconvenience would be experienced in the event of a ship receiving accidental damage of a serious character considerably below the water-line; she would then, of course, have to be sent to the nearest dock capable of receiving her.

648. Would you anticipate that if the vessel had received injury on her passage, and had reached Galway, she would be exposed to any danger in going to another port for the purpose of repairing the accident?—There would be no greater danger than that to which she would be exposed under similar circumstances on the outward passage. If she were to meet with an accident on her outward voyage, she could not be docked on her arrival in port. The having to go a few miles further would not, practically speaking, add to the danger.

649. Do you suppose that any great increase of expenditure would be produced by the want of a dock at the port of arrival and departure?—No other expense, I apprehend, than that incurred by sending the vessel to the nearest dock. It is very seldom that a vessel requires to be docked unless she meets with some accident, with the exception of iron vessels, which perhaps are not now under consideration. It is desirable to dock iron vessels frequently in order to clean the bottom, but the bottoms of wooden vessels keep sufficiently clean when they are constantly employed.

650. Do you think it likely that the absence of a dock might render it necessary to keep an additional spare vessel lying at the port?—That I apprehend would depend upon circumstances. If a certain number of vessels could barely do the work with a dock, it might be the case that in order to carry on the service with certainty a spare vessel would be required; but if the number of vessels employed were fully adequate to the work, then by working them a little harder in case of need, the same number would do the duty without a dock. It would depend upon the fact of the vessels being worked fully up to their capabilities or the contrary.

651. Are you aware whether there is any dry dock at Southampton for the use of the mail packets that run to and from that port?—There is; they have a dock at Southampton capable of receiving the largest vessels.

652. Have they a dry dock?—They have.

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Thomas Lloyd, Esq.

February 19, 1851.

653. Is it all ready?—I believe it is in use; I know that they have a dock, but till recently there was no dry dock in Southampton capable of receiving large vessels.

654. Therefore, for a considerable number of years the mail contract packets which have run to that port have not had any possibility of being docked at Southampton?—Certainly.

655. Before the difficulties of constructing a dry dock at Malta were got over, and when there was no opportunity of docking a steamer at Malta, are you aware whether any serious inconvenience occurred to any of her Majesty's ships from being unable to be put into dock at Malta?—No; in general the Government service was carried on very efficiently in the Mediterranean without a dry dock.

656. Was it the practice to bring the steamers home from Malta for the purpose of docking them?—Never, unless they met with some serious accident; unless they had been aground, and had damaged themselves seriously.

657. Then, if it became necessary on any account to dock a steamer, they were obliged to come all the way from Malta to England for that purpose?—Yes.

658. Were they not hove down at Malta?—You can heave them down a little way, but you cannot heave them down so as to repair the bottom of the vessel; certainly not to get at the keel.

659. Do not they use the patent slip at Malta?—Not at Malta; the patent slip is quite as good as a dock for most purposes.

660. Is it necessary to put a vessel into a dry dock under ordinary circumstances independently of accident?—Never till she requires general repairs.

661. And that does not happen in the course of several years?—Three or four years probably.

662. About once in every three or four years under ordinary circumstances, barring accidents, she would require to go into dock, but not oftener than that?—Not oftener than that.

663. As regards accidents which make it necessary to go into a dry dock, are they not almost always connected with making the land?—Yes.

664. Upon making the land, if any accident happens, they run into port, and if they have the means, they repair it at once; if not, they must send the vessel on to some other place?—Yes.

665. Do you recollect the case of the "Manchester," that she got damaged on the Fish Bank, and ran into Dublin, but as they had not the means of repairing her there, they had to take her over to Liverpool, and that she was lost between Dublin and Liverpool?—Yes.

666. Are the feed-pipes for the engines, &c., so fitted that a steamer can be repaired without going into dock?—Certainly; there are certain valves upon the outside of the ship, conical plugs, which can be drawn up if anything goes wrong with the pipes, so as to keep the water out, and then the pipes can be disconnected, and the valves inside the ship repaired, just as well as if she were in dock.

667. As regards a dry dock, it is only for the hull, not for the machinery that it is wanted?—Yes; in a paddle-wheel steamer the machinery seldom or never requires a dock for its repair except when it undergoes a general repair.

668. It requires a wharf fit to receive her to lie alongside?—Yes; she requires a quiet place to lie in.

669. Are not there holding-down bolts which sometimes get loose?—We seldom put the holding-down bolts through the vessel; formerly they used to be put through. When, however, they are put through they are made of the Muntz metal, or some other metal not requiring continual attention, which the holding-down bolts formerly did.

670. You would have to dock if they got loose?—Yes, if they went through the bottom and got loose; but if not, they might be broken or very seriously corroded, and you would not have to dock the vessel.

671. Do you consider the docks or wharves with deep water to them are very essential to the business of large steam packets?—You must have a quiet place for the vessel to lie in.

672. How would you get the engines on board?—I presume you would not propose to get the engines on board, or out, at the port in Ireland.

673. Are not the engines more liable to accidents than the hull of the vessel.—Yes; but in the event of a serious accident, you must send her to a manufacturer at the place where it is intended to execute the repairs.

674. You consider that they would be unable to execute the repairs themselves at those places?—They never could execute any repairs which would render it necessary to take the engines out of the vessel. This would be too serious a matter unless they were to get an establishment like one of the Government factories, which I think would be out of the question.

675. Do you attach much consequence to their being within reach of the great manufacturers of boilers and steam-engines?—The nearer they are to the persons who have to repair the machinery, of course the better. The voyage being shorter, there is less expense incurred, and less time occupied in getting the thing done. But I think if the repairs cannot be executed on the spot, it matters very little whether the vessel has to go a little further or not.

676. Is not the class of large steamers confined to three or four leading ports, such as the Clyde, Liverpool, Southampton, London, and perhaps Bristol?—Yes.

677. To what do you attribute that? Why do not they go from Plymouth, Falmouth, and other places which are nearer to their points of destination?—The persons interested in those lines of steamers are probably also interested in their starting from those places. At Plymouth and Falmouth there are probably no rich merchants or other persons of enterprise, nor is there much trade. But with regard to the Clyde, there is no dry dock in that river which can receive a large steamer.

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678. But they can build and fit out large steamers in the Clyde?—They can build and fit out.

679. How do they manage the repairs?—They must send them away. I happen to know that fact; for some time ago the "Greenock," which is not a very large vessel, could not be docked in the Clyde.

680. Is the "Greenock" a Government vessel?—Yes.

681. How many docks are there where large steamers can be docked?—There is Liverpool, London, and Southampton.

682. Do you know whether it can be done at Bristol?—At Bristol they had no dock large enough to take the "Great Britain;" I cannot speak with certainty as to Bristol.

683. Do you know the capabilities of the dock at Port Glasgow?—There is a very small dock at Port Glasgow, nothing like large enough for a large steamer.

684. They have none at Greenock large enough?—Certainly not.

685. How do they repair the vessels?—In some cases they haul them up on slips.

686. Is not that quite as good as a dock?—Not quite so good; but a patent slip, compared with a dry dock, is a very inexpensive thing. I imagine that if you like to go to the expense, a patent slip can be made capable of taking up a vessel of any size. It is only necessary to make every part proportionably strong, and of sufficient dimensions.

687. Therefore, if at any of those ports on the west coast of Ireland, a patent slip were laid down, all the necessary repairs might then be made at the port?—Yes; but even a patent slip, so far as I am able to judge, is by no means necessary for the safe or regular conveyance of the mails or passengers. Indeed, at Southampton, till very recently, there was neither the one nor the other.

688. Where did they send their vessels for repair?—To London.

689. As regards manufactories, what extent of manufactory would be necessary to enable them to work to advantage at a western port?—I think a very small one would be enough.

690. You think that small means of repair would be sufficient?—Very small means; just sufficient to enable the people belonging to the ships chiefly to do their own repairs. In large ships there are a great many mechanics on board,—engineers, boiler-makers, and others,—and all that would be necessary would be to afford them the means of repairing by giving them a few lathes and other tools.

691. Suppose repairs to the boilers were required, how would they get those done?—Repairs to the boilers might be done upon the spot. The repairs to the boilers are not very considerable.

692. Are they sometimes done in the vessel?—Entirely in the vessel. When boilers are taken out, it is very doubtful, generally speaking, whether they are worth putting in again.

693. Then, altogether, you do not think that very great means of repair would be required to enable the transatlantic packets to work from an Irish port?—No; I think that very inexpensive preparations would be all that are needed. Of course it would be convenient to have greater means, but in my opinion they would not be productive of economy.

694. You think that it would be only occasionally that they would have to resort to a large port for more important repairs than they could do themselves?—Certainly. I should think that the people on board the ships would do all the incidental repairs that might be required for two years. I should think that about every two years they would require to go away for more serious repairs than they themselves could effect.

695. In the case of vessels in constant work using their steam at a high rate, how often do they lie by for two or three weeks for the purpose of being put to rights?—After every two or three voyages they should do that. It is very desirable to dismantle the engines and examine them. After every voyage, of course there should be a certain examination made, and after two or three voyages, a more extensive examination, and by that means serious accidents may often be prevented. A defect may be discovered before it has become serious.

696. What establishments are there for the repair of Government steam vessels in Great Britain?—We have nothing but those at Woolwich and Portsmouth.

697. Practically, is much repair required to the engines and boilers of Government vessels at foreign stations?—No. When vessels are employed on foreign stations, when they get out of the reach of factories, and depend upon themselves, they will go on for three or four years, requiring nothing but what the people on board do themselves, and they go on better than if they had the assistance of factories.

698. Do not the men-of-war seldom use their steam. Do not they usually sail, and use their steam very much less than the mail packets?—The men-of-war may be employed just as packets; but generally speaking, I should say that the Government vessels are not employed under steam more than half the time they might be, if it were necessary.

699. Half the time you say they do not steam?—More than half.

700. What proportion of their time should you say they are sailing, and what proportion steaming?—I should think they are not under steam a fifth of the whole time they are in commission.

701. When they are under steam, are they often pressed much?—As hard as they can go, generally, when ordered from one port to another. They are almost always hastened. When the Admiral says, "Go," he usually says, "Come back as fast as you can." I am perfectly satisfied, however, that in the general way, steamers are better without having recourse to factories than with the aid of factories, that the men get over their work better, and take more pride in the state of their engines, and exert themselves more. I am speaking now of small incidental repairs, which, when they know they are out of the reach of factories, they will do themselves, and will not allow to become large. If they have got a factory within their reach,

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Thomas Lloyd, Esq.

February 19, 1851.

they will probably not take the trouble to do any little repair, which may be all that is necessary to prevent the defect becoming worse, and then they go to the factory, and lay up.

702. Can you give an opinion whether it would be likely that you could get contractors to undertake the service of running from the west of Ireland to America as well as from Liverpool or Southampton?—I should think they would undertake it for less from Liverpool, in consequence of the facilities at that port.

703. Then there is the increased distance of the voyage?—The advantage has to be balanced against the disadvantage. There is no doubt that a little reduction in the length of the voyage is a matter of great importance where high speed is concerned. It makes a great difference in the expense of the ships, engines, and the whole apparatus, if you have to run a few hundred miles further. The same ship will not do it; you must have a ship capable of carrying more fuel: she will therefore go slower, and the time of making the voyage will consequently be increased proportionally more than the length of the voyage.

704. Is there any rule to regulate the quantity of fuel to the speed or the horse-power?—It depends so much on the size of the ship. The size of the ship is a far more important element in the consideration than is generally supposed.

705. Do you consider that there would be any difficulty in building steamers to go across the Atlantic at an average rate of 15 knots an hour?—No. There is no doubt in the world that it may be done. I cannot call it an established fact, because it has not been done; but looking at what has been done by smaller vessels, there can be no doubt that it may be done by larger.

706. If the distance between Liverpool and New York were diminished by 300 miles, do you think that the speed could be increased?—No question of it.

707. Supposing that you built two vessels expressly for this service, one to go from the coast of Ireland and the other from Liverpool, could you build a vessel to go from the coast of Ireland to New York that would go faster than the other vessel which you built for the purpose of going from Liverpool to New York?—If the vessel from Liverpool to New York were to go as fast as the one from the coast of Ireland, she must be a larger vessel, and have larger engines.

708. And therefore be more costly?—Yes.

709. But it would be possible to go as quickly from Liverpool as from the west coast of Ireland?—I see no limit to the speed you may go, if the vessel is calculated for the service in point of size, form, and power, and if expense is no consideration.

710. Mr. Penn calculated that he could construct a vessel which should go at the rate of 15 miles an hour from Galway to Nova Scotia—about 2,000 miles; but when he was asked about adding 250 miles to that, or about 14 hours' steaming, he said that he could build a vessel to go the longer voyage at the same rate, but that it would be much larger and more costly; do you agree in that opinion?—Certainly, that is perfectly clear; there is no question about it.

711. Then why do you consider that the voyage from Galway can be done quicker than the voyage from Liverpool, provided there is no limitation of expense?—If there is no limitation of expense, and you are willing to spend a sufficient sum upon a vessel that is to go from Liverpool, then, I say, if you spend the same amount of money upon a vessel from Galway, you can go faster: therefore it depends upon how you look at it. If expense is to be no consideration in either case, you can get a vessel to go faster from Galway than from Liverpool.

712. Can you form any estimate of the difference of expense which would be produced by increasing the length of the voyage about 300 miles?—No; I should be almost afraid to answer that question without more consideration. I should have, first, to consider the kind of vessel, and the cost of the vessel which would fulfil the required conditions in the one case, and then to see how much larger the vessel must be made to fulfil the same conditions in the other case; that is not a matter that can be guessed at. In a general way, I may be permitted to say that the difference of expense would be very considerable, more than I believe, at first sight, might be expected. The addition of 300 miles upon a long voyage adds very considerably to the difficulty of the problem.

713. Is it on account of the bulk of the coals that would have to be carried?—On account of the bulk of the coals.

714. Is the vessel that you contemplate one that would carry goods as well as passengers, or a vessel that would be exclusively destined for the mails and passengers?—If you wish to realise on the average 15 knots an hour, it would be very difficult to carry much goods; but that also depends upon the size of the vessel. It is, of course, well known that the larger the vessel is, *cæteris paribus*, the faster she will go with proportionate engines. If you make two vessels of the same proportions and form, one double the length of the other, the larger vessel is eight time the size of the smaller one; but the mid-ship section of that vessel is only four times greater, and the resistance would be only four times greater, although the capability of carrying weight would be eight times.

715. Though the vessel would be larger, and the consumption of coals larger, and the cost larger, still it would have greater capability of carrying goods?—Yes; if the length of the voyage be the same; but if you insist upon carrying goods, you add another difficulty to the problem, of making a vessel which shall go 15 knots an hour for a long voyage.

716. But in making a larger vessel in order to get increased speed, you would necessarily have a larger quantity of vacant space?—All the spars displacement would be required for the engines and coals. One great difficulty in constructing vessels for a long voyage is the difference in the draught of water at the commencement and at the end of the voyage.

717. And in proportion to the speed that difficulty would be increased, because the con-

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Thomas Lloyd, Esq.
February 19, 1851.

sumption of coals would be greater?—Yes; although the time is shorter. But the better the form of the vessel, the less will be the difference in her draught of water during the voyage, because she will go faster.

718. Cunard's steamers and Collins's line of American steamers are built for a voyage of about 3,000 miles. Supposing that the voyage were shortened by one-tenth, do you think that their speed would thereby be increased?—To a trifling extent, certainly, because they would not go away so deeply laden; they would require less coal.

719. Provided they did not fill up the place hitherto occupied with coals with freight?—Yes; if they did that, of course the velocity would be the same.

720. With perhaps this advantage, that the freight continues through the whole voyage, whereas the coals diminish as they advance?—Yes, that would in some degree increase the velocity, because a more suitable immersion may be given to the paddle-floats.

721. Do you happen to know the length of Cunard's vessels?—I do not remember it at this moment. The latest vessels are the longest. They have increased the length.

722. What is the probable length of a vessel of about 200 tons? Would it be 300 feet?—I think barely 300 feet. I should be disposed to make it as long as I could, for the sake of speed. I should say probably 280 or 290 feet for 2,000 tons.

723. What would be the length of the vessel that you think would go 15 miles an hour?—I should think, about 280 or 290 feet.

724. What do think her beam would be, independently of the paddle-boxes?—About one-seventh of that, speaking off-hand. That would be rather longer than the usual proportion, because I imagine that to make a vessel to go at that speed you must make her very sharp. The sharper you make her, of course the less force will drive her though the water, and the less fuel you require.

725. There is nothing in the desirable sharpness of form that would prevent their being good sea-vessels?—I imagine not. As far as my experience has gone, those sharp vessels are better than the bluff ones.

726. Are they found to be so in the Atlantic?—My experience has not been much in the Atlantic.

727. Are you aware of any better vessels going than those North American steamers, Cunard's and Collins's?—No; I think they have done as well as any large vessels; but I think they would have done better still, if the improvements adopted in the best sea-going vessels had been introduced.

[*The Witness withdrew.*]

SATURDAY, 8th March, 1851.

The Right Honourable Earl GRANVILLE in the Chair.

The Knight of Kerry examined.

The Knight of Kerry.
March 8, 1851.

728. We understand that you are able to give us some information on the subject of our inquiry; we shall be very glad to hear any observations you have to make?—I have considered the general subject of a Western Packet Station a good deal. The first point which I wish to call your attention to is the measurement of distances across the Atlantic. The table which I have seen in print, which has emanated from this Board, appears to me, as far as we can judge, inconsistent with the measurements which we have had made. The measurements which we have put forward in our statement or Green Book, prepared by the solicitors of the Killarney and Valentia Railway, are measurements of distances from Halifax to different parts in Ireland, furnished to us by a high scientific authority; and it appears to me that they are not consistent with the time stated in the table, which has the sanction of your Board. There are no distances given in that table, but the times given for crossing the Atlantic from Valentia, and from the other ports, are inconsistent with our measurements. I will give an example: Valentia, according to our measurement of distances, has an advantage of 62 miles over Galway; but that is inconsistent with your time-table, which only gives Valentia an advantage of three hours 32 minutes over Galway in the time of reaching New York. Your time-table gives the time occupied from New York to the different ports, and our table gives the distances from those ports to Halifax; but I do not suppose that that makes any practical difference. Hence your table gives Valentia two hours and 49 minutes advantage over Tarbert in the Shannon, for which we claim 48 miles. There is also a discrepancy as to Bantry, but that is much nearer the mark. As to the difference of time allowed as between Valentia and Falmouth, I have no means of judging whether that is correct or not. The next point which I wish to call your attention to is, that you allow the same pace for steaming in the Channel as for steaming through the ocean. I wish to suggest that that is scarcely fair; that taking into account the risks of collision and of fogs which are certainly more incidental to the Channel than they are to our coast, you can hardly reckon upon the same pace for the one as far the other. The time which you allow from Cape Clear to Holyhead is about 20 hours; and 23 hours difference you allow between Valentia and Holyhead. I have the case of the "Cambria," within the last month, which is a transatlantic steamer: she was over 48 hours going from Liverpool to Cork. She went to Cork to take up the freight of the "Atlantic," and she was from Tuesday morning to Thursday going the distance between Liverpool and Cork.

729. Was it bad weather?—It certainly was bad weather. Again, we consider that we have less fog on the western coast of Ireland than you have in the Channel; and the ocean is of course free from the risk of collision; and the currents are, I believe, more adverse in the

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The Knight of Kerry.

March 8, 1851.

Channel than in the ocean. Under those circumstances I think it is scarcely fair to take the same rate of speed for the Channel that you do for the ocean.

730. Mr. Cunard, in his evidence, gave rather the contrary opinion. We were anxious to know what the loss of time was in the Channel, and he was asked this question:—"Is the general average of your speed affected by the run up and down Channel?—No; if the weather is thick, we are only a little more cautious in running and sounding.——Taking into consideration the smooth water you have in the Channel, would the average speed be as great?—Yes, we have done the distance in fine weather more rapidly than any other part of the voyage.——Then taking all circumstances into consideration, you think that the speed is greater between Cape Clear and Liverpool than it is between the coast of America and Cape Clear?—In fine weather you are sheltered, and no sea, and the ship makes more rapid progress than in the ocean."—My contradiction of Mr. Cunard was more directed to the impression which his evidence seemed to have made on the Commissioners than to what he actually did say. I did not exactly catch at the time the words of that portion of his evidence which was read. Now after reading over the three questions and his answers, taking them collectively, it appears very doubtful whether he considers the Channel average of speed greater than that of the ocean. To the third question, which is that which put the case most distinctly and unmistakedly, he altogether limits his reply to *fine* weather. Now, no person can doubt that in fine weather, with smooth water, a clear atmosphere, and not in a very crowded navigation, the speed in the Channel would be greater than in equally fine weather in the ocean. It is a very different thing to assert that all the year round, after allowing for the waiting for tide, the impediments of fogs occurring possibly in the uncertain approach to Liverpool, in that crowded navigation, the same speed can be reckoned in between Cape Clear and Liverpool Quay as between Cape Clear and the coast of America. I think there are a great many opinions against Mr. Cunard upon that point. I have founded what I now say upon the opinions of a great number of naval men. I met a gentleman yesterday who told me that in the last voyage across the Atlantic he was detained four hours at Liverpool waiting for a tide. That is an inconvenience we do not experience on the west coast of Ireland. Another point that I think we may fairly claim is this, where you have not to steam through the Channel, and through shoal water such as Liverpool, and there is a more free licence allowed to the constructors of vessels, vessels may be built better calculated for speed. There is a pamphlet, which I dare say has been sent to the Commissioners, written by Mr. McCalmont, which appears to me to state that matter very forcibly, and he quotes Mr. Penn as an authority in support of his opinion, that where you have not to deal with the shoal navigation of the Channel, you can have more licence in the construction of the vessel, and you can construct a vessel of greater speed than at present exists. In short, whether rightly or wrongly, Mr. McCalmont finds great fault with the construction of Mr. Cunard's vessels: he calls them sea waggons, and his own vessels, ocean omnibuses. I beg to say, that it was one of the Board that said that Mr. McCalmont called Mr. Cunard's vessels sea waggons, and I replied, that he had a right to do so, as he called his own ocean omnibuses.

731. Did he not propose that the vessel that Mr. Penn was to build should be of considerably less draught of water than Mr. Cunard's, and therefore, as regards shoal water, there would be no advantage in avoiding that?—Yes. But he claims also that the shorter voyage will require a smaller quantity of coal, and have greater room for passengers.

732. The vessel at the same time is not calculated to carry any cargo?—No; it is calculated to carry passengers only, and the mail. Then another point that we urge in favour of the establishment of a Western Packet Station is this: we say that we have a right, if we do not damage the conveyance of letters and passengers to England, to claim the best arrangements for the Irish letters and passengers to Ireland, and also for that proportion of freight which belongs to Ireland. In short, we say that we should not have our letters and our passengers and our freight, whatever proportion of that we may have carried to the *east*, and then brought back again to the *west;* and if this arrangement does not damage England, it certainly very greatly benefits us. The proportion of letters for Ireland, both going out and coming in is very considerable; it amounts to fully a third of the entire American correspondance with the United Kingdom. To return to Mr. McCalmont, the view which he takes of the importance of a Western Packet Station, in reference to the emigration now going on from Ireland, appears to me a very important one. If it is cast in our teeth, as it generally is, that the packet station question in Ireland must be separated from all commercial considerations, and that commercial considerations oblige you to go to Liverpool and the commercial district, at least we have a right to claim as an argument in favour of our packet station the fact of a very important article of commerce which unfortunately exists at present—emigration, and which is likely to continue for a long time. We admit that we have not at present a large commercial freight to assist in supporting the establishment of steamers to America; but we have the item of emigration, which, if Mr. McCalmont's statements are correct, and they appear to be well founded, will be a very large item in supporting the establishment which will be necessary for carrying the mails and passengers. Another point is, that in war time steamers from the west of Ireland would be far more out of the reach of the enemy's cruisers than vessels would be starting from the Channel. That I think is a point that ought not to be lost sight of. Steamers going down the whole of the Channel would expose a broader side to attack from the cruisers of the enemy than vessels starting from the west of Ireland.

733. That would not be the case if, in time of war, vessels did what they frequently do now, that is, take the northern passage?—No; but I believe the ordinary passage at present is the southern, and as far as that is concerned, we have a right to say that vessels would have a shorter passage, and they would be more out of reach of the cruisers of the enemy than vessels going down the Channel.

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734. Are you aware that the North Channel is the shortest to New York?—I know that that passage is occasionally made; but I am not aware that it is the shortest. Then, again, the lighthouse dues is a point that I think we have a right to dwell upon. It appears to have been a subject of diplomatic controversy lately between Lord Palmerston and Mr. Lawrence. If Mr. Lawrence is a correct authority, he states that 62*l.* is the amount of lighthouse dues paid by every transatlantic steamer on each voyage. Vessels leaving Liverpool have to pay at least for 23 lighthouses, but starting from the western coast of Ireland, they would have to pay only from one to three lighthouses. Then the embarkation of troops has been put forward, a collateral advantage connected with the establishment of a packet station on the western coast of Ireland. If we are met on the other side by the objection which has been very often put forward, that on the western coast of Ireland there are no establishments for the repair of the vessels, and that they would have to be erected for the solitary requirement of a packet station, while in England those establishments are not limited to the packets alone, but are extended to a great many other purposes, I think we may fairly put forward such other considerations as the embarkation of troops in connexion with a steam packet station, in order to extend the basis on which such establishments would be chargeable. The embarkation of troops has been very often stated as a concomitant of a packet station on the western coast of Ireland, and as troops must be in a great measure conveyed in sailing vessels, great advantage would be gained in such cases, even more than where steamers are concerned. There can be no question that in the embarkation of troops from a western harbour in Ireland, there is a considerable advantage, where their destination is either for the south or west, and there being so large a proportion of the whole army stationed in Ireland, it might, I should think, be very well arranged that troops should move westward, and embark from a western port. Then I claim, that we on the western coast of Ireland are freer from fogs and from currents than the Channel; and though I have no professional opinion to adduce in support of this statement, I can pretty well substantiate it by the following fact: that on our coast in the vicinity of Valentia there are two lighthouses built on the Skellig Rock which are at a very considerable elevation—one 600 feet, and the other 200 feet above the sea level; and if our coast were very subject to fogs, that altitude would very much increase the evil; they would be more obscured in times of fog, and the Lighthouse Board would doubtless have lowered those lights if it had been found that frequent fogs prevailed. There is one point which is very often stated as an objection to a western harbour in Ireland, which is, that passengers would object very much to the removal from the steamer to the railway, and from the railway to the steamer; but Mr. Archibald, a friend of mine, who has accompanied me here, has had a good deal of experience in travelling in the United States, and he tells me that the arrangements there are so complete, as to trans-shipment and the changes of luggage, that they are found practically not to be such an objection as we are apt in this country to consider them.

735. Is there any information that you wish to add to that which we have in writing about the superior advantages of Valentia Harbour to any other harbour on the west coast of Ireland?—Yes; I wished first of all to say what I had to say upon the general question, and then to call your attention to one or two points bearing upon the subject of Valentia Harbour. We are too fond in Ireland of attacking each other, and I have abstained as much as possible from attacking other ports; but as there have been so many attacks made upon us which have appeared in print, I have been now and then forced into a little recrimination which I should have been glad to avoid. There was one gentleman who was examined before you, Sir Robert Hagan, who thought fit to publish his replies to your questions. He spoke of Valentia in this way—"As to Valentia, it is a blind harbour; it is out of the question:" but he admits, at the same time, that he has never been there. I take the liberty of answering that statement by quoting an authority who certainly deserves a good deal of attention, that is Captain Wolfe, who is the author of a very able Report upon the subject, and I beg leave to refer you to that portion of his Report which bears on the access to Valencia, which most diametrically contradicts Sir R. Hagan's assertion. Our position at Valentia, I think, is strong in this view. No person looking at the map of Europe, or of the world, can deny that it is the place where a harbour *ought* to exist for all western communications. Then, standing on that strong position, I think we are not bound to prove that there is nowhere else a better harbour than ours. Granting us, what cannot be denied, the best geographical position, all we are required to prove is that we have then a harbour suitable and amply sufficient for all purposes of transatlantic steam communication. I have furnished the Commissioners with the opinion of Captain Wolfe, who made a most elaborate survey of Valentia Harbour; he spent there several months, and his Report is founded upon that survey; and if, as will scarcely be doubted, he is admitted as a competent authority, his opinion quite bears out that we have a sufficient harbour for transatlantic steam purposes.

736. Is there any passage into Port Magee from the south?—Yes, from the south-west. I wish to call your attention to one point in reference to the harbour, which is not so strongly put forward in Captain Wolfe's Report, as he explained it to me in conversation. Though the ordinary north-west entrance is narrow, yet for steamers it is not of much importance. We admit that, for sailing vessels, it is a narrow entrance. But our answer to that is, that a steam-tug may be employed for sailing vessels, especially as the narrowness continues but for a very short distance. It is only between two points, like a turnpike-gate, and on each side of those points you have room enough for sailing-vessels to manouvre both inside and outside the harbour. But supposing, for the sake of argument, that a steamer found a difficulty in making the north-west entrance, there is at Loch Kay an entrance wide enough for any vessel in the world. But as it is right in all these matters to take the extreme adverse view of the case, it is possible that a steamer might enter Loch Kay at dead low water of spring tide; in such case she would have to pass a bar on which at that moment there would be but 11 feet of

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The Knight of Kerry.

March 8, 1851.

water. Now, what Captain Wolfe suggested, and which he has not stated in his Report, as far as I recollect, it is that outside that bar, and under shelter of Lamb Island and the Black Rock, there should be laid down moorings in 4 fathoms water, and that a vessel in that extreme case arriving at a time when the tide would not allow her to pass over the 11 feet bar, should avail herself of the moorings till the tide answered to bring her in to perfectly smooth and safe anchorage.

737. With a strong north-westerly wind, have you not a good deal of sea there?—Yes, we have a good deal; but with regard to the north-west or Cromwell's Dock Entrance, Captain Wolfe told me that he spent several hours at the lighthouse on the worst day that occurred during his stay, and the lighthouse-keeper, who has lived there for the last 12 or 13 years, tells me it was the worst sea that he had ever seen; and Captain Wolfe informed me that he watched it very closely, and he never saw it broken across; there was always a little green or blue water. With the prevalent westerly winds the foam created at the western point of the harbour's mouth is driven by the westerly winds across the entrance, which gives it the appearance of being broken across, when in reality it is not so, as can be seen by the Book of Evidence on Valentia. We have heard several opinions very favourable to the harbour on many grounds. One objection that has been frequently made is the absence of soundings. We have had the opinion of an officer very well acquainted with that coast, Captain Hon. E. Plunket, who makes that, as I understood it, his sole objection. I think that has been completely answered by Captain Wolfe's Report.

738. Do you know what the draught of the steamers would be?—19½ feet I see by the published queries of the Board.

739. The rise of tide is not more than 6 or 7 feet at neap tides?—At neap tides we should not have the 11 feet bar, of which we have been talking, to contend with.

740. Would there not be great difficulty in taking a vessel in in a dark night with a gale of wind?—We have not had much experience as yet, but the result of the experience we have had has been, that the more vessels know of the harbour the better they like it. I may mention the instance of one man, a highly respectable captain of a schooner, who has been trading to Valentia for 16 or 17 years, he has come in at all times of the day and night, with and without a lighthouse, and he has never once met with an accident, and he assures me he would rather make for Valentia in the winter season than in any port in the east coast of England. Again, we have Captain Evans, who was employed to examine the western harbours of Ireland. I heard him say it was quite impossible to imagine a better harbour for the purpose of steamers than Valentia. At that time sailing-packets were more in vogue than they are now. Sir John Franklin visited Valentia in 1835, and he spoke very highly of the harbour, and he told me he could not have imagined the advantage that the Skelligs Rocks were to the harbour as leading marks both by day and by night till he had seen them. I have here a sketch of those rocks [*the witness produced the same*]. They are nine miles from the nearest entrance; they are such striking objects that by day or by night they will tell ships where they are. We have at this moment lying in Valentia harbour a Norwegian vessel that was disabled by the severe storm in November last, and the commander of that vessel assured me that he had never been on the coast of Ireland before, but that in the middle of that tremendous gale in November, he ascertained where he was by seeing the Foze Rock and Blasquets on the northern side of Dingle Bay, which are pretty much of the same character as these. That, I think is a complete answer to those who have stated that the harbour is a blind harbour and perfectly unmarked.

741. Captain Evans has given an opinion quite against Valentia?—I am prepared to state upon oath that Captain Evans, at the time he was there, said, "Not only have I never seen, but I cannot imagine, a better harbour for the purpose of steamers than Valentia."

742. Was that applied to the interior of the harbour?—No. His remark was not confined to the interior of the harbour.

743. Captain Evans was asked, "Would you run for that harbour in a breeze?"—"No. The sea breaks right across it; it is only a cable's length wide, and you cannot make out the entrance unless you get good marks upon the shore."—I am glad to have the opportunity of putting on record the opinion which Captain Evans expressed at the time, and which applied to the harbour generally. I remember the whole tenor of the conversation. My father was living at the time, and argued the matter with Captain Evans, who objected to the entrance of the harbour for sailing vessels, but added, as I said above, "I not only have never seen, but I could not imagine, a better harbour for the purpose of steamers than Valentia."

744. Was that before the light was established on Cromwell's Point?—Yes, I think it was.

745. He was justified in saying that it was a blind harbour, then, because you cannot see the light till you get close to it?—That light has been a most material improvement to the harbour, but I think it has been unjustly said that it is a difficult harbour to make out, because these different outlying points are a great advantage to guide you to the harbour; and when you have these outlying points, and also the harbour itself lighted, you cannot call it a blind harbour.

746. Have not some vessels been lost in going in?—I think not.

747. One person says, "This harbour is very good when within it, but the entrance of it is very dangerous; several vessels have been lost in taking this harbour at night. I learned during my stay there, that two vessels were lost in the winter of 1847, and all hands perished in attempting to enter the harbour at night; and several vessels have been lost in attempting its entrance in the day-time?"—I think we may safely contradict that. I remember a meal-vessel being lost, but I heard that the sailors ran her on shore. That some vessels have been wrecked there is very possible; but vessels have been saved there in the most miraculous way,

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The Knight of Kerry.

March 8, 1851.

and hundreds of vessels have come in there in distress. I wish to call your attention to the fact, that her Her Majesty's packet "Skylark" twice took refuge there, after beating about against an easterly wind for a fortnight endeavouring to get up the Channel, having Falmouth officers on board, who had great objection to coming into Valentia; but she was at last obliged to come in, which she did on two occasions, and landed her mails and passengers.

748. You stated that it was the intention to blow up the rock. Is that the rock which is at two-thirds distance from the lighthouse?—I understood the question to be this:—"Is it the Harbour Rock, which is described at two-thirds distance from the lighthouse, and which was talked of as to be removed by blasting." My answer was to this purport:—"The rock which it is talked of blasting, and which is two-thirds of the width of entrance, removed from the lighthouse, is not the Harbour Rock; that is a rock marked with a perch, it is some way up after entering the harbour, and lays out of the way of the navigation." Captain Evans stated, that he considered that rock an advantage, and advised that a kind of breakwater should be built in it.

749. Mr. Aylen says, "In fine weather it is all very well, but in a heavy sea (which you always have on this coast half an hour after the wind freshens), the entrance to Valentia is so narrow as to be quite unfit for a large ship or steamer. There is a rock two-thirds of the distance from the lighthouse, and between it and the opposite point, so that a vessel must keep close over to the lighthouse-point, which is a bad shelving-rock, with a constant heavy swell, even in fine weather; and attempting this narrow passage in bad weather, were a heavy sea to strike a ship, or were she to yaw in the slightest degree, she must go on shore, and to do so would be instant destruction." Is that the rock you thought of removing?—Yes. I consider Mr. Aylen greatly exaggerates the difficulties of the entrance.

750. Would there be any formidable obstacle to the removal of that rock?—I am not sufficiently an engineer to speak to that of my own knowledge; but I have been told by those who practically understand the matter, that there would be no difficulty in removing it. The Harbour Rock is one upon which there has been a perch for many years. The vessels leave it on the right hand as they come in; and Captain Evans stated, that he considered it a great advantage having that rock there.

751. Out of what funds do you propose that the different improvements, both as to moorings and also as to blowing up the rock, should be undertaken?—I think that it should be carried out on the same principle as the building and extension of piers; that is, partly by contribution from the district, and partly by Government loan, and partly by grant. The principle has been, a third loan, and a third grant, and a third levy upon the district.

752. Have you any wharf at Valentia fit to receive a vessel of 20 feet?—No, not to that extent. There has been a considerable extension of pier, but not sufficient for vessels of that size; but there are very good sites for extending the pier.

753. There are no docks?—No, but there are parts which have been considered by practical men as particularly suited for docks.

754. How far is Valentia from any railway?—At this moment there is no railway nearer than Mallow, but there is a line which has been partly made between Mallow and Killarney; but they began at the Killarney end, instead of at the Mallow, and there are 10 miles of earthwork and bridges already done, but the Company are now before Parliament for an alteration in their Act; and they have no doubt of going to work this year to carry the railway to Killarney; and then there is a Company in existence who are before Parliament at this moment, for the extension of the Compulsory Clause for completing the line from Killarney to Valentia.

755. What distance is that?—It is a distance of 35 or 37 English miles.

756. Is that the distance along the line that the railway will take?—Yes, I think it is 37 miles Mr. Walker gives it in his Report. We have a right to assume that, in case Valentia was established as a packet station, there is no difficulty, as the railway companies are actually in existence. In completing the whole line, the railway might not be undertaken irrespective of the packet station; but if Valentia were the point selected for the packet station, the railway would undoubtedly be made.

757. The traffic of the packets would contribute towards the support of the railway?—Yes.

[*The Witness withdrew.*]

Charles D. Archibald, of Portland-place, Esq., F.R.S., examined.

C. D. Archibald, Esq.

March 8, 1851.

758. You have heard the evidence that has been given; have you any observations to make?—I have been practically acquainted with the transatlantic steamers for many years. I have been in the habit of crossing the Atlantic almost every year, and I can testify to the great desire which exists on the other side of the world that some point, I do not mean to say what particular point, on the west of Ireland should be selected as being a desirable and convenient port for the departure and arrival of vessels.

759. Will you state how that desire has been manifested?—From my acquaintance with our own provinces and the United States, I can state that Halifax is regarded as undeniably the best point on the American coast, and I know that the feeling exists in the United States, in the minds of parties largely interested both in steamers and in sailing-vessels, that so soon as a line of railway shall be completed from Halifax to the great lines of railway in the United States, their own packets will have to touch at Halifax. There is a strong sense of the importance of shortening the sea voyage by every possible means, and therefore it is that they look to some point on the west of Ireland as desirable for arrival and departure.

760. Do you gather that opinion chiefly from conversation with different parties?—Many

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C. D. Archibald, Esq.

March 8, 1851.

years ago there was a Commissioner deputed by the Corporation of New York, or by parties in New York, to visit the coast of Ireland, and previously to that I had been in communication with the Knight of Kerry upon the subject, and from these and other circumstances I know that the party who was selected to visit the western coast of Ireland and examine the harbour, did give a favourable report of Valentia in preference to any other port, probably with reference to its being the nearest port to America.

761. But that has never been attempted to be acted upon?—It made a strong impression upon the commercial public in New York at the time, but it never has been acted upon. But I know from many parties there that the moment a packet station shall have been selected on the coast of Ireland, their own ships will tend towards that port, they are so sensible of the difficulty and danger of the Channel passage; and I may speak from some little experience in the matter, when once we are off Ireland, one-half of the danger and one-third of the voyage are considered over; and so when we come from America, when we reach the coast of Ireland, the wish always expressed is that we could land there; and the remainder of the voyage becomes more irksome and tedious.

762. Have you any reason to believe that those are the views of the parties who manage Collins's line of packets?—I have reason to believe that that is the feeling of those who look to the passenger traffic and the conveyance of the mails as a matter of sufficient importance to be separated from the question of commercial traffic?—They would prefer to have the point of embarkation on the western coast of Ireland rather than having it on the western coast of England?—That opinion has obtained very largely with reference to the passenger traffic and the mails; they would desire to have a larger, and safer, and more powerful description of steamers for the ocean voyage than that which the channel and narrow seas will admit of.

763. How, then, do you account for their not having adopted a port in Ireland when they commenced to run their packets?—They had, of course, in view the commercial advantages of the great ports in England.

(*Knight of Kerry.*) And the present state of the Irish ports of course is against such a proposal.

764. I presume there was nothing but their own interest to guide them in the selection of a port when they chose Liverpool?—(*Mr. Archibald.*) I apprehend there was nothing but that and the rivalry with existing lines.

765. You say that they attach great importance in New York to shortening the voyage?—They do.

766. Why, then, do they not take Boston or Portland as the port of embarkation?—That would not shorten the voyage materially. I have heard parties interested in the existing lines say, that when once a railway is made from Halifax to communicate with the main lines, they will be compelled to make Halifax the port of departure; there is a desire to annihilate distance even greater there than exists in this country. I am satisfied that nineteen out of every twenty of the passengers, on arriving at Halifax, would take the railway if there were one running to their destination.

767. What time do you apprehend would be saved by going on the steamer to Halifax instead of going to New York?—About 50 or 52 hours by the west of Ireland.

768. When do you anticipate that there will be a railway made between New York and Halifax?—As soon as the Government of this country gives sufficient encouragement to lead to its construction.

769. Are you connected with Nova Scotia?—I am.

770. You are acquainted with Mr. Cunard and Mr. Howe?—Yes, intimately. I am a native of Nova Scotia, and my late father held the highest offices in that country.

771. What do you think of Whitehaven as the port to be selected instead of Halifax?—I have a strong opinion that Halifax is by far the best port, and that Whitehaven is about the worst that could be selected. I have inquired of many practical men, and that is the opinion they have all expressed.

772. You do not consider Whitehaven to be free from ice, and a desirable port on that account?—Not at all; the navigation is very often interrupted, not only by the freezing up of the harbour in winter, but by the floating ice which is driven on that part of the coast at a later season by the force of the currents.

773. Are you aware which would be the longest, the line from Halifax to St. John's, or from Whitehaven to St. John's?—From Halifax to St. John's would be the shorter. The Whitehaven district of country is very mountainous, and there is wide granitic or primitive formation to be traversed.

774. Did you ever go round from Halifax to Boston or Portland?—I have been round there on several occasions.

775. Are there considerable rivers to pass?—There is the river St. John and a great number of rivers that you must make a *detour* to get past; but surveys of all that country have already been made with a view to pass above the tidal waters.

776. But generally those rivers are crossed by ferries, are they not?—In many parts of the United States the rivers are crossed by ferries, but no ferries are contemplated on the line from Halifax to Portland.

777. From New York to Boston is there a railway connecting the two towns?—There are three or four different lines of travel, but there is only one line of railway on which you can go in the same carriage from New York to Boston.

778. You have to cross the rivers by ferries?—Not in going by one route; it is a circuitous route, but it avoids all ferries. The passage of ferries is very easily accomplished by having steamers of a peculiar construction, in correspondence with the railway trains. The baggage-carts are run off the railway to the top of the boat, whilst the passengers pass in, and

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C. D. Archibald, Esq.

March 8, 1851.

there is very little time lost. The baggage always accompanies the train without being shifted.

779. Would that be applicable to crossing the Irish Channel?—I apprehend it would. The cars containing the baggage would be run on board the steamer. The Railway Companies in America charge themselves with the safe custody of the baggage; and there is an officer, called the baggage-master, whose business it is to receive and take care of the baggage; and, on arriving at their destination, the passengers find everything safe.

780. What is the ordinary rate of travelling on the American lines of railway?—Eighteen miles an hour; they make up in the ordinary lines about 18 miles an hour; they stop their trains more easily than we do; they go to within a very short distance of the stopping-point before they slacken speed, and there is a very short time allowed for getting in and out. Their express-trains go up to 30 miles, but those are not run except upon a few main lines. I have a very strong opinion that, within a few years, whether the Government of this country promote it or not, a line of railway will be completed from Halifax to communicate with the great trunk lines in the United States.

781. Do you think that the people of Nova Scotia would approve of Whitehaven as the port of embarkation?—No; I should say that nine-tenths of the intelligent people are in favour of the line from Halifax, and would be decidedly opposed to the line from Whitehaven. The more Nova Scotia is known the more its importance will be admitted, both with reference to its geographical position and its internal resources.

782. Have you very frequently crossed the Atlantic?—I have.

783. Chiefly by Cunard's vessels?—Yes, since they have been introduced; but I crossed many times before they began to run.

784. Do you consider them to be very fine vessels?—Unquestionably.

785. Do you know any better on the ocean?—I do not: the "Europa," in which I have been over several times, I take to be a perfect model of a steamer.

786. Is there any other information that you can give the Commissioners connected with the general subject?—I am not aware that there is. I can only speak to the great desire which exists, and a very natural one, to shorten as much as possible the ocean voyage.

787. Have you made the land in thick weather in coming to the coast of Ireland?—Yes; and I cannot remember that we have been impeded by the fog on any occasion. I have made the coast of Ireland on five or six different occasions in the daytime, and without experiencing any difficulty.

788. Supposing that Cunard's packets were removed from Liverpool to a western part of Ireland, do you think Collins's line would follow them?—I think so; and if the Government packet-station were to be established on the coast of Ireland, I think that the Americans would immediately avail themselves of it; they are far more impressed with the importance of shortening the sea-voyage, as far as regards the passenger-traffic, than we are.

789. Do you suppose that they would consent to give up the freight which they now carry from Liverpool?—The greater part of the freight must be carried in sailing-ships. They could devise some means of communication between Liverpool and the port in Ireland, so as to make that port a kind of depôt for receiving freight.

790. How do you suppose they would make up for the loss which they would suffer from not carrying the freight which at present they carry?—I imagine, nine times out of ten, the freight is a small item.

791. Do you speak from any knowledge of your own upon the subject?—No, I do not; but I know that on several occasions when I have been a passenger the freight was a very small item.

792. Do you speak of the freight outwards?—The freight outwards is better than the homeward freight; but I think the passenger traffic and the mails have now become of sufficient importance to justify, and in fact to oblige, the introduction of a class of steamers suited for the ocean voyage, without reference to freight at all. If freight can be conveyed to the point of departure by smaller vessels or by any other means, well and good; but the traffic in passengers, with the mails, is sufficient to let that be a matter by itself; and between a western port of Ireland and Halifax a description of vessel, larger than could be introduced into the narrow seas, might in that case be employed.

[*The Witness withdrew.*]

WEDNESDAY, 12th March, 1851.

The Right Honourable Earl GRANVILLE in the Chair.

Captain Sir Edward Belcher, R.N., examined.

Capt. Sir Edward Belcher, R.N.

March 12, 1851.

793. You are aware of the object of our inquiry, which is, whether it would be desirable to remove the Transatlantic Packet Station to Ireland, and if so, to which port: have you had that matter under your consideration?—I have had it under consideration for some years; I may say since 1830. It has always occupied my mind; although I have never been on that part of Ireland, I have been accustomed to treat this question as if I had been on the ground.

794. Will you state to us what your general impression is on the subject of the advisability of establishing a packet station in Ireland, viewing it as a naval question?—I merely look at it as a naval man. I think in many cases the mail-packet would be compelled to seek some other port than the one determined. You could not define any port on the south-

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Capt. Sir Edward Belcher, R.N.

March 12, 1851.

west, or western side of Ireland which she could enter at all times under all circumstances. I have had a visit from Mr. Church, who was brought up under me, and who has been surveying on the western coast; he admits that, in many cases, he should be very sorry, even pilot as he is, to take one of these vessels into any of the south-western ports of Ireland.

795. Will you explain the grounds upon which you come to that conclusion?—The heavy following sea, which frequently prevails, would render it unsafe to risk these vessels so far in shore until you made the land; and then in hauling off, if she broke her machinery, she would inevitably be lost. If in the case of the "Atlantic," that vessel had been making for a port on the south-western part of Ireland, and she had met with her accident with a dead lee shore and following sea, she must have been lost; she would have had no remedy. Our British vessels are more fully rigged that the American; the American could not escape so well under canvas. I think our packet steamers are so much under-manned, and the men in them are so very inferior, that they would not be able to cope with a gale of that kind under canvas on a lee shore.

796. The packet steamers?—The packet steamers. Their crews are not picked men, like those in men-of-war; they are frequently obliged to complete their crews at the last moment, and they do not continue them as *an establishment*; they discharge them when they come into port, and take new ones as required. Sometimes they may have the same men, not always the same commanders.

797. They keep the engine establishment, do they not?—They do, and some of the servants. The officers are removed as it suits them; so that an officer probably in the "Africa" to-day may go out with the "Cambria" at three or four days' notice. The commanders have not a sufficient knowledge of the vessel; they cannot know her sufficiently to humour her, or know what she may perform under canvas if she got on a lee shore.

798. Would your objections equally apply if these packets were properly manned?—I think a ship-of-war might run the risk at any time.

799. You draw a distinction between the west coast of Ireland and the coast of the Irish Channel in England: Liverpool for instance?—The whole of the English coast is safe to approach, under ordinary or even extraordinary circumstances.

800. There would not be the same danger in making Liverpool?—Not at all. I tested Liverpool in 1835-36. I then tested the Victoria or Formby Channel; there was some doubt at that period; merchant-vessels did not take it; "I tested it at dead low water," drawing 12 feet, and blowing hard.

801. With the wind blowing right in?—Yes.

802. What depth of water is there on the bar?—Twelve feet at that time at dead low water.

803. That would be with the heave with the sea?—Yes, and it caused the vessel to strike; but I had a very powerful vessel—an old 10-gun brig—lengthened, a strong vessel.

804. Would not the soundings be of great assistance in approaching the Bay of Galway, for instance, from the west?—I think not; the vessels would be so far on the lee shore when they did strike soundings, that it would be of very little use to them. It might lead them up in some measure, but then you must have a pilot on board *for every port* if you compel them to make the west coast of Ireland.

805. At what distance from Galway can soundings be found that would be of use?—I think, as far as I can recollect, from 30 to 40 miles. Off the Heads, at the approach to Galway, the soundings, I should think, at about 10 miles off shore would be the first soundings that would be of any use to them.

806. Do you consider the 100 fathom line the first of any use?—No, the 45, 46, or 60 probably; besides which, supposing one of these vessels running in with a heavy following sea, she could scarcely risk stopping her engines to get soundings at the rate she would be going; it would risk her engines very much indeed. If she does not go faster than the sea, the sea will strike her; and she may probably be disabled close upon the lee shore.

807. There would be danger of "rounding to"?—Great danger.

808. Altogether, you think there is less risk in running up the Irish Channel?—Yes. I think that in nine times out of ten, at least in all cases where they are in doubt, the British steamers would take the north of Ireland; if they found bad weather prevailing, the barometer low, or that there is any heavy ground swell coming up from the south, though there may be no wind, they would take the north; they are quite secure; there can be no possible danger, and they actually go a shorter distance.

809. Why do they not always take that northern passage?—The officers commanding are probably not so well acquainted with the northern part of Ireland as with the southern.

810. We presume there must be some advantage in going the southern route which has caused it to be the habitual one; do you know what that advantage is?—I cannot tell unless they start with northerly winds.

811. We were speaking then of coming home?—I do not know why they do it, because it is a long range to come from 56° north down to 50°; it is a long line to run down, and they could go on the same parallel, and enter the Irish seas on that parallel.

812. Which parallel?—About 55½° or 56°, somewhere about Tory Island; they would come safely in upon that; and they have a longer line of soundings off there, if they wish to make use of them.

813. Have you never been on the west coast of Ireland?—I have been frequently off the coast, but not in harbour, excepting on the eastern side. I know all the eastern side closely; I have surveyed it, but the western I have not. Between the years 1812, 1815, 1816 and 1817, I was employed off the west coast of Ireland or Channel entrance.

814. Do you reckon it a dangerous channel to run up the Irish Channel to Liverpool from the south, from Cork. There has been evidence given to us of the number of collisions which

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have taken place there?—That seems to imply that there is less danger, because they all go that route; that is the reason of the collisions. The trade generally could not go by any other.

815. It shows that there is a great traffic?—Yes. The moment you come in upon the bank of soundings in the chops of the Channel, you get fogs, and particularly if westerly winds prevail. Generally the vessels turning out are unwieldy from their heavy draught, being fully laden, beating down Channel. Those that are coming in from long voyages are generally good sailors, and handy vessels; a different class. They run the coasters down. The same thing occurs in the English Channel. I think you will find in most cases that the vessels which are run down are deeply laden vessels—colliers, or laden with slate, having heavy cargoes, probably going round from Wales to London.

816. And generally from want of precaution in not showing lights at night?—From not having a sufficient number of men on the look out. The only man on deck probably at the helm; and if lying to in a gale of wind, probably he is asleep. I recollect we nearly ran over a fast fruit-vessel from the Mediteranean coming home in H.M.S. "Samarang"—a very beautiful schooner which had been a yacht; there was not a soul on deck; we ran close to her—bore up and cleared her; we should have gone over her if day had not dawned: this was during a very heavy gale of wind.

817. You did not run her down?—No; if it had been dark one hour longer, we should have done so.

818. With reference to the soundings on approaching Galway, will you state at what distance from Galway one might first obtain soundings?—About 40 miles off shore there is almost half a degree between 74 and 77, and those three fathoms would hardly be perceptible to a vessel running sharply over the ground; in fact the chances are, that 64 and 74 might be caught nearly at the same time: that is north of Slyne Head.

819. That is hardly in the parallel of Galway?—It is on the line which the packet would have to come through; she would have to come right down from 56° north, and if her latitude should be doubtful, she cannot find the parallel. I think that, taking the possible advantage which you might gain by running in there once in ten times, you would gain time by going by the north of Ireland. I do not think the mails would be delivered five hours earlier.

820. They would be delivered much sooner in Ireland?—They would be delivered sooner in Ireland, but as far as the English mails are concerned, there is one thing nearly certain, that you never could receive the letters in London till nine o'clock on Monday morning, even if the vessel arrived 24 hours sooner, because she frequently arrives early on Sunday morning, and you get the letters on Monday. If she arrived on Saturday night at sunset, you would not receive the letters till Monday morning, so that it would make no material difference unless you altered the day of sailing from America.

821. Are Saturday and Sunday the common days for their arrival?—I think you will find that the mails, lately, have arrived on Sunday, at about 9 or 10 o'clock in the morning; if they arrived on Saturday, you would have to wait till Monday.

822. Are there not two arrivals in the week, across the Atlantic, in the Boston and the New York line; one of which does not occur on the Saturday or the Sunday?—It is my opinion that they all occur on the same day, excepting the American line; the American line used to arrive on the Thursday, I think; but they have altered their day, now, to ours.

823. Still, that is a matter of detail, which hardly affects the question?—Just so.

824. You came across, this year, in one of the steamers; did you not?—I crossed in January, in the "Africa," in 10 days and a-half.

825. You took your departure from Cape Race?—From Cape Race finally.

826. What sort of weather had you from Cape Race to making Tory Island?—They did not see the sun any one day; they had no observations.

827. You considered it safe to run to make Tory Island?—Quite.

828. Do you consider that it would have been unsafe to have run for the Arran Islands, with the weather as you had it then?—Certainly; the barometer was below the scale—lower than they could read it, indicating bad weather, which we found afterwards, from the papers, had been the case. You obtain soundings at 65, 63, and 54 fathoms, within 65 or 66 miles to the west of Tory Island. After you pass Tory Island, you get from 46 to 36 immediately, which you would not have anywhere else. You would easily determine your position by hauling to the north, as the soundings there increase suddenly.

829. Going for Galway?—No; going towards the north from Tory Island.

830. It was quite safe running for Tory Island?—Quite; you have about 108 miles clear ground before you.

831. Did you overrun your distance at all, or was your distance short?—It was early; I think they sounded, and found themselves rather too far to the north; hauled southerly, and made Tory Island directly, in a thick haze; in fact, they saw a fisherman nearly under their bows, before they saw Tory Island.

832. Was it blowing hard, then?—No, it was fine; water smooth; but there was a long heavy swell.

833. If you had not made Tory Island, when you expected, what would you have done to put the vessel as you considered in safety?—They would have run straight on, easterly, and the moment they decreased in soundings, have steered southerly, and made the coast of Ireland, which they did, in fact. They did not see the island when they expected, and steered southerly, and hit it very prettily.

834. If it had been blowing hard, and there had been a heavy sea, could you have gained soundings off the north coast?—Yes, I think we could; because the whole line of the Irish coast breaks the sea. You have a very short abrupt sea round Islay and the Mull; it is

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Capt. Sir Edward Belcher, R.N.

March 12, 1851.

not a heavy long sea at all. I was in that neighbourhood in 1847, when I was employed upon the Canal Question, at Tarbert; I was off there in a steamer. That short race is a very nasty sea to go against; but before the wind, there is little danger.

835. Before you got so far to the east, in the parallel of Tory Island, you would have a very heavy Atlantic sea there, would you not?—You would pass so rapidly over the outer edge of the bank that you would be out of it almost directly. It is south-south-west, which is near the *true south* gale, which would turn in the heaviest swell; but you would be under the lee of Ireland immediately after you got into soundings.

836. But, with a south-west gale on the western shore, you would have a heavy sea?—Yes, but that is only two points further; two points more would make it along the land. The instant you entered soundings you would have the sea broken by all the western coast of Ireland.

837. You do not apprehend that there would be any difficulty in that part of the coast in getting soundings?—No.

838. It is a short sea?—It is a short sea; it is a dangerous sea for small steamers, but for large vessels it is not so. Even for the "Cuckoo," which is one of the 10-gun brigs lengthened (I think she is one of that class), it would be dangerous. The small packets find very great difficulty in rounding the Mull of Cantire. Sometimes they are a whole day off, till the tide changes; and then, even when the change is in their favour, the sea comes in very abrupt. I am talking of the run from Glasgow to Islay. They are very small vessels; about 320 to 360 tons.

839. Did you come from New York at the time you have spoken of?—Yes.

840. You embarked at New York?—Yes.

841. While you were there did you hear anything about the proposition of moving the packets from Liverpool to Ireland?—Yes.

842. Had you any conversation with the master of the vessel on your passage home?—Constant.

843. As to the chance of the packets being removed from Liverpool to Ireland?—Yes, in both cases; both in the "Asia" and the "Africa."

844. Those are Cunard's vessels, are they not?—Yes.

845. What was their opinion of it?—They were entirely adverse to it. They declared that they would not be willing to serve [that they would quit the service altogether] if the stations were changed to Ireland; that they could not go through the work in that class of vessel on the coast of Ireland; they considered it unsafe, and they are good seamen.

846. What did they anticipate would occur if a port of Ireland were adopted as the port of embarkation?—That there would be an increased strain upon themselves on all on board.

847. An increased responsibility?—An increased responsibility and labour; that they must be constantly on deck, and that there must be greater watchfulness. They did not conceive that a merchant-vessel ought to be subjected to that sort of thing.

848. Do you consider that, with that feeling on the part of the officers of the ship, it is likely that there would be considerable delays in landing the mails, if they were to be landed on the west coast of Ireland?—I do not think you could secure the landing of the mails on the west coast of Ireland.

849. Not at all?—Not, as a matter of certainty, *at all times and in all weathers.* I know that to be the opinion of Mr. Church, who is probably one of the best pilots on that coast.

850. Do you mean on account of the risks that would be incurred by the vessel?—On account of the uncertainty of entering.

851. Do not you attach great importance to Mr. Church's opinion?—I attach more importance to Mr. Church's opinion than I would to that of any man in the Kingdom, because *I know him* well, and I know him to be a determined, clever fellow; he should be a first-rate pilot, and he is a hard-working officer. He has been with me for several years. I know him to be a man of great nerve, and if any man could attempt anything Mr. Church would do it; but I think it would be very unfair to take Mr. Church's opinion of what he would attempt, to guide you as to the packet service—he would do very well for a ship-of-war.

852. He would tell us whether it would be really considered safe to attempt in a gale of wind to make a port in any particular port of Ireland?—Yes; and better than any one else, because he has been for three or four years past constantly surveying. Mr. Church was also employed under Capt. Vidal, in 1830, sounding the Vidal Bank, in a schooner, not a steamer, and constantly in danger off the western coast of Ireland.

853. With regard to the commanders of these packets, who gave you the opinion which you have mentioned of the coast of Ireland, have you any reason to suppose that they have any such connexion with Liverpool as to give them any prejudice?—Not at all.

854. They would give their opinion as seamen?—Yes; in fact, they were talking to me *privately.* Neither of them, at the time that I was talking to him, had, I believe, any idea of this inquiry. On the passage out, I started the subject of taking mails in off Holyhead with the Captain of the "Asia."

855. They were not likely to know the coast of Ireland so well as the coast of Liverpool?—No. When we were off the south-west point of Ireland, I observed, "If you could only forward the mails from here, and pick them up as you passed, you would gain so much time." He said that it would never do. That nine times out of ten, when they passed there, no boat could live, and no vessel would come near them. That was going out in the "Asia." When we came home, I happened to mention to Capt. Regrie what I had heard in New York, and he said directly, "All I can tell you is, that if the packet station should be changed, they would lose every officer they have in the service—not one would serve."

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856. Had these officers commanding the packets sufficient knowledge of the west coast of Ireland to give their opinions great weight?—As much so as any other merchant captains I should think. *Capt. Sir Edward Belcher, R.N.* March 12, 1851.

857. Do you suppose that they have ever landed or embarked from a port on the west coast?—I should think not.

858. So that their opinion must rather be from what they have heard than from what they have witnessed?—It was a deep-sea opinion, I suppose, not a pilot's opinion.

859. With respect to the vessel that you went out in from Liverpool, were you enabled to ascertain whether she had much cargo in, or did you know in any way?—She had her usual quantity; she drew 20 feet 6 inches, six inches over her usual draught.

860. And in coming from America can you tell us whether the vessel had any cargo?—She was rather light; she only drew 20 feet.

861. Did you ever ask the opinion of any of these officers of packets as to the propriety of having a port of call in Ireland?—Yes, both of Capt. Judkins and of Capt. Ryrie; in the "Asia," going out, and the "Africa," coming home.

862. Will you state what it was?—I suggested the idea of first picking the mail up at Holyhead. They objected even to the smooth water there; and as to Cape Clear, they considered that it would always be a case of uncertainty, owing to the weather.

863. Supposing that Berehaven were adopted as the port of embarkation, would there be any nautical objections to it?—That is a point which I discussed with Mr. Church, and he says that the surf off the eastern point of Berehaven, where you would have to round, is at times so very heavy, that it might drive the vessel so far to leeward that it would be difficult to haul sharp round it. A vessel coming on with a rolling sea from there must go at a great velocity, and in rounding at that velocity, damage might occur. There is not sufficient space. I do not think the distance across from Berehaven is above three-quarters of a mile—I mean the navigable distance between the shoals. It is very "steep to."

864. Do you mean at the outside?—No, on the eastern side of the island. It would be safer for you to go in upon the western side, and to go right up the narrow channel, if the following sea would allow you; but on the other side the vessel would have to make such a circuit round the rocks that it would be difficult, she would have to make a long sweep; indeed she could not turn in that short distance in a gale of wind. In a calm she could do it with ease.

865. With regard to the approach to Bantry Bay from the deep sea, there would not, we presume, be the same objections that you were suggesting just now to the approach to the Bay of Galway?—There would not; however, upon that point, Mr. Church can give you the very best information. The only way of taking Bantry Bay would be to make Cape Clear lights, and then run back. So heavy is the sea, Mr. Church was telling me, on the Fastnets, that the sea actually flowed over the light-house, which is now up to the lantern, and washed off an anvil from the top of it. You may imagine what the sea is there. I think the height is 120 feet, and if the sea, at that height, washed an anvil off, it must be ticklish work for a steamer. An anvil is a very small thing—not bigger than a desk. From the experiments which Mr. Walker has, I believe, obtained, the force of the sea at different points round there is far beyond anything you can imagine upon any part of the coast of England. About January, 1814, we were beating up Channel, to the southward of that coast we lost the figure-head, and likewise the whole of the head-gear of the fore part of the ship, by the force of the sea striking the ship. This was in a ship of the line, H.M.S. "Abercrombie."

[*The Witness withdrew.*]

SATURDAY, 15th March, 1851.

The Right Hon. Earl GRANVILLE in the Chair.

The following gentlemen appeared as a deputation:— *Deputation.* March 15, 1851.

The Right Hon. the Lord Monteagle.	*Martin Joseph Blake, Esq.*, M.P.
William Monsell, Esq., M.P.	*The Knight of Kerry.*
Sir Lucius O'Brien, Bart., M.P.	*Andrew Blake, Esq.*
Anthony O'Flaherty, Esq., M.P.	*Captain Randall.*
John O'Brien, Esq., M.P.	*John Long, Esq.*
Wyndham Goold, Esq., M.P.	

866. (*Chairman*) We shall be glad to hear any statement which any gentleman has to make upon the general question upon which you are aware that a great deal of evidence has been already given to us?—(*Mr O'Flaherty*) On the part of Galway we have nothing further to mention, than that I hope you will examine two witnesses who were suggested at Galway, Admiral Robinson and Mr. Mulvaney, a Commissioner of the Board of Works. Mr. Blake, my colleague, and myself come here, not for the purpose of making any particular statements with reference to Galway. I believe a large portion of evidence has been already given on behalf of that port. Of course, if there is any further evidence required upon any point upon which the Commissioners are not perfectly satisfied, we shall be prepared to give any further explanation, but we do not wish to occupy your attention at this moment with anything in particular.

(*Mr. John O'Brien.*) I have come here to bear testimony to the anxiety which prevails amongst my constituents upon this subject, rather than to offer anything myself which might influence

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Deputation.

March 15, 1851.

the decision of the Commissioners. We are aware of the intelligence of the Commissioners, and equally of their impartiality; and although I believe Ireland is not represented on the Board, yet we have not the less confidence that ample justice will be done. There is great anxiety felt on the subject among the competing districts, and it would be desirable that a decision should be arrived at as soon as can be, consistently with the convenience of the Commissioners. The two gentlemen who have come from Limerick, I am sure will give very full information with perfect accuracy, and quite irrespectively of the bearings of the question upon their own local interests.

867. (*Chairman.*) I should like to take this opportunity of stating, with reference to myself and the other Commissioners, that when a message was sent to me by Sir Francis Baring, as to taking the chair upon this Commission, before I sent an answer I went and spoke to him upon the subject, and one question which I asked was who my fellow Commissioners were to be, feeling anxious to know that they were those in whose ability and impartiality I could perfectly confide. I also asked, as the Government are sometimes supposed to get up Commissions with the view rather of causing delay than of discovering the truth, whether it was his feeling that this was a *bonâ fide* Commission which had only the object to discover the truth? Sir Francis Baring said that it had only one object, that the truth might be thoroughly sifted; and that, of course, he should not be prepared to propose to the Commissioners any other course. Very soon after that we heard that statements were made in Ireland, that that could not really be the object of the Commission, because no clause had been introduced into the contract with Messrs. Cunard which would enable the Government to break up the existing contract under ten years. As soon as this came to our knowledge we had some conversation upon that point, and we were unanimously of opinion, that it was our duty not to be influenced in the slightest degree by any difficulty into which the Admiralty might be put by that legal obstruction, but to report exactly according to the merits of the evidence. Afterwards, on seeing Mr. Cunard, we put questions to him about the contract. He said certainly there was no clause empowering the Government to terminate the existing contract, but he begged that it might be taken down as his evidence before us, that though his own opinion was strongly against the change, and he thought it undesirable, yet if the Commission and the Government decided upon making the change, he was ready to repair to any port that might be decided on, be only receiving the compensation which he might afterwards be shown to have merited by an examination of his own books, in the way in which at different times compensation has been awarded to him by the Government. I hope, therefore, that whatever our decision may ultimately be, there will be no erroneous notion in Ireland that we have been influenced, either in the one way or the other, by any extraneous circumstances.

(*Mr. John O'Brien.*) The statement which your Lordship has now made is very satisfactory to us.

868. (*Chairman.*) I understood from Lord Monteagle's note yesterday, that there are some gentlemen who wish to represent the particular merits of the ports in the Shannon for a packet station, and who will be able to attend some day next week; but in the meanwhile it was suggested that as there are gentlemen representing Galway here to-day, it might be convenient that both parties should attend for the purpose of some facts as to the general question. We propose, therefore, to hear now any observations which any of the gentlemen present may wish to make upon the general question. We hope, however, that they will not extend to any very considerable length, because the gentlemen representing Galway are obliged to leave town early next week, and we wish to ask them some questions upon particular points.

(*Lord Monteagle.*) I can only speak in relation to a meeting, which was held yesterday, of a number of gentlemen connected with the counties of Clare and Limerick, and who consequently have a distinct local and personal interest in the question of the Shannon navigation; but reserving that question altogether in the manner which your Lordship has suggested for after consideration, we were desirous to be permitted to attend to-day for two purposes: the one, in order to mark specifically that whatever may be our peculiar interests as representing a particular port, or as being connected with a peculiar locality, we wish those at all times to merge in the general question and the larger consideration of the preferableness of an Irish port to the alternative suggested of an English port. We wish to mark distinctly, that the question of the choice between one port and another in Ireland (although we shall all, of course, endeavour to bring before your judgment the facts of the case as to the localities in which we take particular interest), is completely secondary to the general question, whether Ireland presents itself to you as a westerly port better adapted for transatlantic communication than any you can find on this side of the Channel.

But, independently of that general question, there is one preliminary point with respect to which we feel it extremely important that we should be better and more distinctly informed than we are at present:—with respect to all of us, whether we represent Galway, Valentia, Berehaven, Cork, or the Shannon, it is actually necessary, for saving your trouble and time, and also to enable us to present our evidence in a methodical way to you, that we should be more distinctly informed about one preliminary point. Of course every question of this kind resolves itself into comparisons; and in relation to the time-table which you were kind enough to show us, and which we presume presents to our consideration some of the alternatives which have been occupying your mind, we want to get a little more precise information. I will tell you exactly what it is that we want:—it is indifferent what particular Irish port is selected to illustrate my meaning; but let me compare Cork with Holyhead, which was one point of comparison. Holyhead was the main point of comparison that you presented to us. Now we wish to know whether, in dealing with the facts which we wish to bring before you, we are to consider Holyhead as the *bonâ fide* port of departure and of arrival, because that presents to us one set of facts with which we should compare the case of

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Deputation.

March 15, 1851.

the Irish ports; whilst if, on the other hand, Holyhead is not to be the *bonâ fide* port of departure or arrival, but Liverpool is, and the question is as to a Liverpool departure, touching at Holyhead for passengers, for mail communications, and for telegraphic expresses and unquestionably we have a different state of things to consider from what we should if the point of departure was Liverpool, touching at Holyhead, and not *bonâ fide* Holyhead and Halifax. You will observe that this question is really vital to the whole inquiry, because we have a very different scale to compare according to the fact whether Holyhead is a mere touching port, while the real *bonâ fide* point of departure is Liverpool, or whether the packets will start absolutely from Holyhead. Of course we do not mean to say that even if you propose to start absolutely from Holyhead, there may not be cases of emergency in which it will be necessary to go up to Liverpool for refitting or repairing machinery, or many other things. Those cases are not to be excluded, but they do not affect the main question which you will see is of vital importance in the comparison. If, for instance, we have to deal with the port of Holyhead, the question of comparative freights becomes totally different from what it is if you are starting from Liverpool, and if you touch at Holyhead. It alters the whole question as to profit and loss, and risks and insurances, and a variety of other matters, according to the hypothesis whether the question be a *bonâ fide* departure from Holyhead or a *bonâ fide* departure from Liverpool, touching at Holyhead. I desire to press this upon your Lordship, because I think a decision upon it will save the Commissioners a good deal of conflicting evidence, which may either be beside the question, and so occupying your time unnecessarily, or may be on other grounds immaterial, if we were to know distinctly, taking the two comparisons which you have been kind enough to supply us with, which of the two alternatives is in the contemplation of the Commission, or whether we ought to admit (which would be a more complicated thing) to both alternatives in the relative evidence which we have to offer as bearing upon Irish interests. Our inquiry, therefore, would be whether you have made up your minds with respect to one of those alternatives, as the basis of reasoning to which you would wish us to direct our attention and to point our evidence, namely, to a comparison with Liverpool or a comparison with Holyhead. If I have stated correctly what the gentlemen, who met yesterday with me, wished me to state on their behalf, perhaps I may leave it to this explanation. If, on the other hand, I have omitted anything, or not explained it with sufficient clearness, perhaps one of them will have the kindness to add anything that may be necessary.

(*Mr. John O'Brien.*) What my Lord Monteagle has stated is quite in accordance with the opinions expressed yesterday.

869. (*Chairman.*) I have very little doubt about the answer, still, as it has been put to me in this formal manner, I should like, before I reply to the question, to have a little communication with my colleagues, and as we are the smaller body, we will retire into another room.

[*The Commissioners retired, and after a short time returned to the Board-room.*]

870. (*Chairman.*) In reply to Lord Monteagle's inquiry, I have to state that, in giving you that table, we did so for the purpose of seeing whether our calculations, derived from official information, tallied with what was understood to be the case by the gentlemen who have examined into the subject. We gave you those calculations also because we found that, from the contract with Mr. Cunard, it seemed to be the intention of the Government, as soon as the pier was quite completed at Holyhead, that the vessel departing from Liverpool should take up the mails and land them at Holyhead; as far as regards our own opinion upon the subject, we have at this moment arrived at no opinion upon the question whether, supposing the mails to be retained in England, it is desirable that they should take that course or not; and, therefore, in any argument which any gentlemen have to make, though we are sensible of the kindness of Lord Monteagle in suggesting that it would save our time to limit the question, we do not think we are justified in asking you so to save our time. We should like to have your case complete against either of those ports.

(*Lord Monteagle.*) We are all much obliged to the Commissioners. We accept with thanks the information that they have given us. As an inference, we must observe, though not as the opinion of the Commissioners, that the intention of the Government seems to be in favour of departing from Liverpool and touching at Holyhead; and therefore to that supposition undoubtedly it will be our business to apply ourselves, not excluding the consideration of Holyhead departure as a secondary though perhaps less important matter.

870* It is a fact known to all the world, as well as to us, that in the contract there is a clause giving to the Government the power of adopting Holyhead as the port of embarkation whenever the pier should be completed, and that of course was one of the facts that we had to deal with.

(*Lord Monteagle.*) We should be glad, if there is no objection, to remain, during the inquiry with respect to Galway, because it may save both the Commissioners and us the trouble of going over the same ground again. But we should not wish to mix up the Shannon case with the Galway case, or the Galway case with the Shannon case.

(*Mr. O'Flaherty.*) We have not the slightest objection, on the part of Galway, that the other gentlemen should be present, provided the same liberty is given to us, and the Commissioners will allow us to remain to hear the witnesses for the Shannon.

Admiral Hercules Robinson examined.

Adm. H. Robinson

March 15, 1851.

871. Do you reside in Ireland?—I have resided the last 25 years in Ireland.

872. Are you well acquainted with the western coast of Ireland?—I am tolerably well acquainted with it. I have been a good deal upon the west of Ireland. I am well acquainted with Cork and with Galway.

873. Have you made the different harbours upon that coast at all the subject of your

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Adm. H. Robinson.

March 15, 1851.

study?—My mind was very strongly impressed, from what I had heard from others, in favour of Galway—I went to examine Galway personally, with a view of seeing whether it bore out my impressions, and I think I have ascertained quite to my own satisfaction respecting Galway harbour.

874. Have you ever been employed professionally upon that coast?—I have.

875. Will you state when, and under what circumstances?—I have been employed in the command of a ship of war, and employed as midshipman in my early periods of service, and I am well acquainted with the winds and tides, and weather usually experienced off that coast. I have frequently run for the coast with a westerly wind, which prevails there eight months out of the twelve.

876. In what years were you there?—I was on the coast in 1812, 1843. I had been there before that.

877. In what ship was that?—I was in the "Prometheus"—that was in 1812. I was off the coast in a steamer in 1843. I was there at an earlier period as a midshipman in a frigate.

878. What rank did you hold when you were last off that coast?—I was captain when last there on service.

879. Do you know anything of the coast between the Skellig lights and Slyne head?—No, except from what appears in the Admiralty Charts.

880. You said that the wind blows on the coast about eight months in the year. Is that the result of your own observation and experience?—I saw the meteorological table, which was kept the last five years, and that gave something more than eight months; my own experience is that the winds blow eight months from the west and south-west and north-west.

881. Are you able to say whether the sea gets up quickly when the wind sets in upon the coast?—I do not think there is anything remarkable. I do not remember that I observed that it rose very quickly.

882. Did you ever run for the Arran Islands?—No.

883. Or the Shannon?—Nor the Shannon. I have examined pretty carefully the Bay of Galway within a few weeks.

884. Do you consider that the Bay of Galway is now fit for a Packet Station without some improvement in it?—I think that the Bay of Galway at this moment is fit, but it may be made much more fit by an outlay, for which the money that is wanted is available. I speak of the part within Mutton Island.

885. Do you consider that a vessel drawing 18 feet water can go in within Mutton Island, and be sheltered so as to enable her to land her passengers?—I do, certainly, to enable her to land her passengers in the wet dock. At present she would land them in the town. If the causeway was perfected, she would land them on Mutton Island. I do not say there would be no difficulty in a storm of unusual violence.

886. If the vessel came in at night, do you think it would be safe to put the passengers in a boat and send them up to the town?—I think perfectly, the distance being so short.

887. You have never been at anchor there in a gale of wind?—No. I said that money is available for perfecting that causeway, inasmuch as I am informed that the money voted for the Galway Railway will not be required by about 75,000*l*. The Estimate for the causeway from Hare Island, or from Mutton Island, would be much less than that sum—therefore that saving may bring the money required within reach; but I do not think Hare Island would be desirable, except for a landing for the Railway.

888. Are you at all acquainted with the sort of sea which there is in a gale of wind upon that coast?—Yes; I have been cruising there a good deal. I do not think it is unusually heavy. It is the usual sea that you might expect in a gale of wind upon other parts of the Atlantic.

889. You never knew that the sea broke upon the west coast of Ireland in twelve fathoms water?—No; it would do no harm if it did, but I never heard that it did. It is an important circumstance that to the west of Galway there are good soundings.

890. How far off?—I am informed as far as 70 miles from the Arran Islands. I understand that the Lingbank extends as far as that to sea.

891. What water is there?—I am not sure—it deepens gradually from 15 or 16 fathoms till soundings are lost. In running for the Arran Islands, all the distance is longitude: you cannot be very much out in your latitude. In running for the Arran Islands, there are three open doors—three passages in. When you get inside the Arran Islands, there is plenty of room. I have heard of the East India fleet lying there for a considerable time; 18 large ships and several smaller ones.

892. Do you think it would be safe for one of those large vessels coming from America in a gale of wind, to heave-to to sound; would it not be dangerous to bring a vessel of that kind to the wind to sound?—I do not think there is more danger in heaving-to to sound there, than there is in heaving-to in the Channel to sound.

893. Have not you been in a gale of wind in which it was not safe to heave a ship to?—I think not.

894. You are aware that these packets must not wait, that they must go on—now do you think that in such weather as you have known upon that coast, it would be safe for one of those vessels to heave-to in order to sound?—I can conceive a case when the storm was so violent as to make it undesirable or even unsafe; in such a case the sounding-machine would be used without rounding the vessel to. But I should not require soundings—Galway has such admirable facilities for getting in, with three open doors, that unless it were so thick that you could not see before you, you would not require soundings.

895. But the question is, supposing it is very thick?—Then I would wait till it is clear—you cannot run in any where if you cannot see your hand before you.

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896. But you might run up channel, might not you?—I would with equal confidence run for Galway. I would run for Galway with just as much confidence as I would for the Start, or for the Lizard, or any other headland.

897. Supposing you had not had an observation from Cape Race till you came close in upon the coast of Ireland, could you possibly run there in a thick fog without sounding?—My experience of the coast of Ireland is, that it is highly improbable, according to all reasonable calculations, that such a case should ever arise. I never was in any part of the Atlantic five or six days wholly without an observation. I have been employed upon the North American Station and Newfoundland, and I have crossed the Atlantic frequently, but have never known any very protracted period without an observation. The usual weather upon the coast of Ireland is that it sets in to rain after midnight with a south-west wind, then it rains till the sunset of that day, and the next day, and then it clears off. There are showers during the night with bright stars, when you can get your latitude by the stars, if you cannot during the day by the sun. I should regard it as a thing almost out of all calculation, to go from Newfoundland to the coast of Ireland without an observation. With respect to railway communication, I understand that it is in contemplation of the Dublin Board to connect the Belfast and Galway Railways, at an expense of 10,000*l.* That is a very short distance, and then I understand that persons in Belfast have fully made up their minds to send their linens to Galway, *viâ* Dublin. The saving of time and risk will be more than equivalent to the difference of freight. The freight will be in one case about 7*s.* and in the other case about 20*s.* But they are fully prepared, I understand, to encounter that. The difference of time is obviously very considerable.

(*Mr. Mulvany.*) Perhaps I may remark, that during the time I lived in Galway I frequently witnessed very heavy gales in the Bay of Galway, and have seen vessels ride there in safety—merchant vessels badly found.

898. At those times could you have landed passengers?—Certainly not, nor perhaps could you land them at low-water without some works to which we have adverted.

899. Can you give the Commissioners any information with regard to the difficulty of approaching the west coast of Ireland in a gale?—The result of my observations, after being for a number of years on that coast, even in some of the most remote and exposed positions of it, has been, as I stated before, that the coast is remarkably clear and free from such fogs or thickness as prevent the headlands from being seen. Some of the headlands and mountains are very high and easily discernible at a great distance, whilst the lights at night are remarkably good. The Slyne Head light, I think, shows nearly at 70 fathoms line. With regard to the entrance, either to Galway or the Shannon, I would draw attention to the fact that the headlands are 70 miles asunder, and thus like the entrance of a channel, and that there is no shoal-water in any of the approaches to Galway or the mouth of the Shannon; you do not come into 12 fathoms water till you are very far into the bay. It deepens most gradually, even in the whole line of soundings, regularly to the 70 fathoms line outside.

(*Admiral Robinson.*) I saw, when I was at Galway, an ill-found merchant vessel riding in a gale of wind at anchor, inside of Mutton Island, and she rode in perfect security. That is where a steamer would anchor if she came there. As to the danger of running upon a lee-shore in thick weather, that applies to every lee-shore in the world, but less to Galway than to any other I know, inasmuch as there are so many open doors. You run for the Start or the Lizard or Cape Clear with a certain risk; but I think the risk is less in Galway than any other I know. In running in at night, after making the entrance to the bay, it would be desirable to have a second light upon Mutton Island; but you have abundance of width—you have a wide channel, wider than that into the Havanna, or St. John's, Newfoundland, or some of the best harbours in the world. But for precaution, you might have a second light upon Mutton Island so as to keep in the deep-water channel, and there you have 27 feet. Off the point where it is projected that the pier should end, it would be 29 feet.

900. You mean to get clear of the Santa Margarita?—Yes, and the Black Rock.

901. Is there sufficient space upon Mutton Island to have two leading lights?—I think there is plenty of room for two lights. I think there is good shelter inside of Mutton Island for steamers at this moment, and I can scarcely conceive any state of weather in which a boat could not land, because, from the anchorage to the town it would, I think, be little more than a quarter of a mile.

902. Do you know the entrance of the Shannon?—Not personally. I know Cork.

903. You do not speak of Galway relatively to other ports, but absolutely of its own merits?—I speak absolutely of its own merits. It is the only port to which there is a railway; there are disadvantages to the others that every one knows. Valentia is, I believe, a bad harbour, as to the difficulty of entrance. As to the Shannon, if you get to Tarbert you have no inconvenience; but the difficulty of running to Tarbert is even greater than in Galway; it is as far from the entrance of the Shannon to Tarbert as it is from the Arran Islands to Galway.

904. But you do not know Tarbert personally?—No. I only know Cork, Galway, and Westport personally.

905. Do you consider that in Galway Bay the Arran Islands are a shelter to it, and break the sea?—Yes. If the ship anchored outside in the bay, she might anchor close enough to have shelter. There are 28 or 29 feet inside of Mutton Island, and 30 feet where it is proposed to have the pier. Inside of Mutton Island you have 25 feet low-water at spring-tides, so that you have 40 feet at high-water, and I think you cannot want more than that. There is a natural breakwater at present between the island and the main. It would be very easy to convert it into a causeway. The proposed breakwater would extend some hundred yards

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Adm. H. Robinson.
March 15, 1851.

beyond Mutton Island, and would give you quays of 29 feet water, by the side of which the steamers might lie.

906. The question referred to its present state?—I conceive, from what I know of Galway, from seeing vessels riding there, and from conversing with persons who have lived upon the spot all their lives, that it is, at this moment, sufficiently fit for packets drawing 19 feet water. A case of hurricane might arise in which you could not land the mails, but under all ordinary circumstances, when a vessel could land in any other good harbour, she could land there.

907. The Commissioners understand that great damage has been done to the gates of the docks by heavy seas which broke on them; can you state the extent of the damage?

(*Mr. Mulvany.*) I can state that the gates have never been seriously injured by any seas. We are receivers over the docks, and have the charge of them.

908. Have you ever known that the sea has broken the gates?—No; a little jobble—we cannot call it a sea.

909. Do you think it would be safe to put a parcel of ladies into a boat outside to land them?—If the sea was beating in that way they would not be landed there; the only difficulty in the present state of things would be at low-water, at high-water there would be no difficulty at all to run up to the town.

(*Admiral Robinson.*) They would only have to go about a quarter of a mile in a boat.

(*Mr. O'Flaherty.*) Perhaps I may be permitted to state that I am one of the Harbour Commissioners of Galway, and I can state with positive certainty, from always attending the Commission and looking into the affairs of the docks, that it has never come before us that the gate has been broken by the sea.

910. (*To Mr. O'Flaherty.*) Will you be good enough to state to the Commissioners what are the probabilities of the improvements which nearly all the witnesses seem to think desirable, being carried out, and upon what terms they would probably be undertaken?—I am scarcely prepared to answer that question at this moment. There are many ways of carrying them out. There are docks at present, which docks might be improved so as to make them suitable for the purposes of a packet-station. If there were piers and a breakwater required, that would be an additional expense, and that would be provided for either by procuring money on loan or the security of the improvements themselves. There are many modes of doing it with the assistance of the Railway Company, and we might be prepared, if that was the only obstacle, indeed, I may say, that they are prepared, if that was the only obstacle, to carry out those improvements. The Railway Company, of course, are operating in conjunction with the Harbour Commissioners and the inhabitants of Galway. If the Commissioners think it necessary that there should be certain improvements in the way of a breakwater, and the connection of Mutton Island with the main land, we are prepared to say that those things shall be carried out. Of course it is not necessary to proceed with them till we have the report of the Commission.

(*Mr. Blake.*) With reference to the Railway Company, as one of the directors I may state that the Company would be very happy to have their engineer before you, or any of their Directors, who would answer any questions that you chose to ask as to their undertaking any of those works which you might consider necessary. I am quite sure that they would be happy to contribute to the fullest extent in their power to advance those works, because it is obvious that it would be of the greatest advantage to them to have the port of Galway selected as a packet station.

(*Alderman Robinson.*) The engineer told me that he had made an estimate of this proposed quay beyond Mutton Island, and that it is something under 50,000*l.*, and that they expect to have 75 000*l.* more than they will expend upon the railway, and that if there were any other sums necessary they would be perfectly prepared to provide them.

911. Is there anything further which you wish to say with reference to the present inquiry?—Mr. Mulvany said that he thought it very undesirable that these matters of commerce and improvement and speculation should fall into the hands of the Americans, instead of into our own. Now, certainly, I have a strong feeling, as a landed proprietor and as a man well acquainted with the utter destitution and misery of the people, notwithstanding what we hear of improvement; it is said that we are improving, but I know too well the contrary in Mayo, and part of Clare, and part of Galway, and part of Roscommon; the misery there is inconceivable, and I should rejoice greatly to see American capital let loose upon Irish speculation. In the reign of Charles II. the Dutch gave a large sum for fishing those very banks outside the Arran Islands. I should rejoice to see them fished by American capital. There are lead-mines unworked in Galway, which want capital to work them; there is at Lough Corrib inexhaustible water-power, pouring itself uselessly into the Atlantic; there are marble-mines and coal-mines not worked. It will be said, Then why does not English capital go there? We know that English capital is a very timid capital, and that American is very venturous capital, and that the Americans will run risks which our capitalists will not. Therefore I should rejoice to see facilities afforded for bringing American capital into Ireland, and for making Ireland another America, instead of taking away our whole bone and sinew across the Atlantic. The destitution of that country is most frightful, and anything that would relieve it is most desirable. I would only further say a single word as to gates. Of course we know that, let the dock be ever so sheltered, the water may be washed against the gates, but there can be no body of water wash against the gates. Hare Island and Mutton Island shelter the gates; there can be no fetch for any sea to the gates of the wet dock.

912. (*Chairman to Mr. Blake.*) Are there any other points with reference to the Port of Galway which you would wish to bring before the Commissioners?—I am not aware of anything, unless you would consider that it might tend to ascertain the truth upon all these points

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Adm. H. Robinson.
March 15, 1851.

to examine the engineer, or some other party deputed by the Midland and Great Western Railway, as to their railway projects. If you did, I would communicate it to my Board, and I would have the engineer here another day. There have been many questions asked with respect to the railway and with respect to their ulterior plans, but I know of no party so likely to be able to give evidence satisfactorily upon those subjects as the officers connected with the railway or some of the Directors. I have been asked by the Company to attend here as one of the Directors to watch the interests of the railway, and partly on that account, as well as in my capacity as Mr. O'Flaherty's colleague, I have come here to-day.

913. (*Chairman.*) We have already had satisfactory evidence as to there being no great difficulties in the construction of any works which may be necessary. We can hardly, at the present stage, ask the railway engineer to tell us what the Company are prepared to do. It is enough for us to know that there is no great difficulty in the way of connecting the railway with the harbour.

(*Mr. Blake.*) There is another circumstance I should wish to mention with reference to connecting the railway at Galway with the dock. The Act under which the railway has been erected gives the power to extend a branch from the present terminus at Galway to the dock.

(*Mr. Mulvany.*) It is also proposed to make a connexion at Dublin between the terminus and the docks, which I showed upon the plan, but I did not call particular attention to it. The Liffey branch of the Midland and Great Western Railway comes along the Royal Canal to the docks at the river, and one of the projects of connexion is from that place to have the trains brought across the river upon a pontoon, and so to go at once to the Kingstown line. I think the best project is to depart from the Kingstown line very near to the present station, and to pass through some old property by St. Michan's Church across the river near the Custom House, and thereby to connect it with the station of the Drogheda line. Then the completion of the connection of all the railway lines would be effected by bringing the Great Southern and Western along the Grand Canal to the Kingstown line at the southern docks.

[*The Deputation and Witnesses withdrew.*]

William T. Mulvany, Esq., examined.

W. T. Mulvany, Esq.
March 15, 1851.

914. Will you state the office you hold?—Commissioner of Public Works in Ireland.

915. How long have you held that office?—Since 1842. I have been Commissioner of Drainage, Fisheries, &c.

916. Are you acquainted with the Port of Galway?—I am well acquainted with the whole of Ireland. But, before you begin any inquiry, there is an observation which I wish to make, resulting from what has passed since I came into the room. I wish to disclaim my appearing here to represent the port of Galway, or as a witness on the part of the port of Galway, or of any other port in Ireland. I could not do so consistently either with my own feelings or with my duties in the station to which I belong. I was asked by Sir John Burgoyne, as a former colleague of his in the Irish Board of Works, in December last, to furnish him with any memoranda that occurred to me with reference to the ports of Ireland generally, and in the January following, as compared with Holyhead,—I consequently gave in two papers, which I believe Sir John Burgoyne laid before the Commissioners. Therefore, in any information that I can afford to the Commissioners, I wish it to be distinctly understood that I do not appear here for the port of Galway. I declined to come on their behalf, but when I received a letter from Lord Hobart, I thought it my duty to attend.

917. Will you state to the Commissioners generally, what is your opinion as to the capabilities of the port of Galway as a station for Transatlantic Packets?—I think I have gone into that, as fully as it is in my power, in the papers which I laid before the Commissioners, and which I understand are to be printed; and I would rather state that if there be anything arising out of those papers upon which the Commissioners may wish to have further information, I shall be very ready to afford it.

918. You have been all your life engaged in engineering operations and in the consideration of great public works in general?—I have.

919. You do not consider the port of Galway at present fit to receive packets?—No. If I remember rightly, my remarks in the paper were, that after viewing all the ports of Ireland, I had arrived at the conclusion that it was the best suited for the purpose of any that I knew, and that if it were adopted, then certain works would be requisite to make it suitable for the purpose; but I think works would be required also for the other ports to which I adverted, in case of their adoption.

920. Assuming that the port of Galway was selected, you consider that certain works would be necessary?—Decidedly.

921. What are the particular works which would be necessary in the first instance?—The great and important work would be a mole from the shore to Mutton Island, and a pier projecting into about 5 fathoms water, to mask the harbour and make it safe, with a landing-jetty inside that pier, giving you a wharf for the packets to lie alongside, and a connection from the railway-terminus in Galway, along the top of that mole, to the pier and jetty, so that passengers with their luggage, and the mails, might go to the side of the vessel.

922. Would there be any difficulty in connecting the railway with that pier?—No insuperable difficulty at all.

923. It would have to cross the river?—It would; but at a place where masted vessels

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W. T. Mulvany, Esq.

March 15, 1851.

seldom at present go. It would be necessary to have a swivel-bridge in it for the entrance to the Lough Corrib Canal, as there is in that crossing the entrance at present to Lough Athalia.

924. What distance would it be from the proposed terminus of the railway to the new pier?—8,900 feet from where it would branch off; and I believe that if Galway was adopted as the packet station, the railway company would find it their interest to make the extension.

925. Have you entered into calculations of the nature of the work that would be required to connect Mutton Island with the mainland, and to form a breakwater beyond Mutton Island?—In the paper which I wrote, I gave some general idea of it; but I subsequently called upon one of our officers, Mr. Roberts, located there, to furnish me with a section of the locality. He has made a calculation of the expense, which exceeds that stated in my paper. Inclusive of the works for the railway company, with which, of course, the public would have nothing to do, which entirely belong to the railway, he makes the estimate 135,636*l.* Excluding those railway works, the estimate for the pier and jetties, as he has sketched them out, according to some general idea that I gave him, he makes 110,500*l.*; that is for the pier, breakwater, and jetty. I included in that design a high storm-wall, about 20 feet above high-water, on the outer or exposed side of the jetty and pier, in order to extend a sheltering influence over the whole of the roadstead inside.

926. Does that comprehend a landing-quay in deep water?—It does.

927. What length is the landing-quay: is it of a length adapted for the packets?—I think the length of the outer one is 500 feet.

928. What is the length of the quay with deep water at which the packets could lie?—For that, 300 feet would be available for vessels of the draught of water spoken of. I understand that 280 feet is the general length of those vessels.

929. You contemplate a finished quay-wall?—Yes. I have here another calculation [*producing the same*], which will make perfectly safe what I state upon the subject. This is by one of our principal engineers in Dublin. He has estimated it with a continuation of the mole, extending it into deep water to the southward of Mutton Island, to mask the bay, 300 yards in length from low-water mark out. He has given a jetty of 300 lineal yards in length at right angles to the line, as being the safest and most likely to do away with any run of the sea: and he makes the gross estimate for both, independently of any railway works, £134,059. That is Mr. Forsyth's estimate.

930. That will give you 300 feet of deep water alongside of the quay?—It will; more than that.

931. And it is to be carried out five fathoms at low water?—It is; that is the direct southerly one. The other, I think, falls into less water than that; but much more than what is required for these vessels.

932. What quantity of pier and breakwater would that make?—By one proposal it is 500 feet beyond low-water mark at Mutton Island. According to the plan of another of the engineers it is 300 lineal yards. The officer on the spot ascertained that 500 feet would bring them into sufficient depth at low-water. I wish to observe, that these figures differ somewhat from what I cursorily ascertained in Dublin before communicating with the Commissioners. In the section of Mr. Roberts, which is upon the table, you will find that he has taken a much greater width of breakwater than in our experience, now-a-days, is necessary. And in the other instance, of Mr. Forsyth, whose estimates come to 134,000*l.*, it appears by sections subsequently obtained that he has a much greater length of breakwater than is required. Therefore, I think, taking either of them, we are quite on the safe side in speaking of 130,000*l.* as sufficient to construct a mole from the shore to Mutton Island, and an extension of it into deep water south of Mutton Island so as to shelter the roadstead, and to give from 4½ to 5 fathoms water, with a jetty at right angles to that, alongside of which the vessels could land and discharge their cargoes.

933. Do you know whether the estimates have been founded merely upon the general rate at which works of the kind have been executed in Ireland, or with reference to the actual locality, having regard to the facility of getting stone in the neighbourhood and things of that kind?—The estimate has been governed by local circumstances. There are great facilities in the place; there is the finest granite, large porphyritic granite very easily procured in very large masses, lying within a mile of the place, and there are great facilities for bringing it down to the port; there are very fine quarries.

934. So that you can get ashlar stone of any size?—Yes.

935. Is there limestone also?—There is abundance of limestone on the east of Galway, of the finest description, easily dressed and prepared. I should prefer the use of granite myself on every account; but limestone is to be had in abundance, and we are using it very considerably in Galway at present. It was used in the construction of a large bridge for the Railway Company across Lough Athalia.

936. It would be necessary to have a lighthouse on the end of the pier. Have you put that into your estimate?—No; but it is absolutely necessary, and I have suggested that, in order to make a leading line for the entrance at night, it would be desirable to have a small light upon Hare Island, which, taken in connexion with one on the end of the pier, would enable a vessel under any circumstances to enter the fair way between the Black Rock and the Santa Marguerita.

937. Could you put a light upon the top of the breakwater?—The pier must be solid enough to put any light upon. At Kingstown and various other places we have constructed a light upon the pier-head. There is no part of the sea-work which requires to be so solid as the pier-head, therefore it is capable of sustaining anything that could be built upon it.

938. Have you made up your mind that Galway would be the best port upon the west of Ireland for a packet station?—I have, decidedly, and stated my reasons generally in the paper

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W. T. Mulvany, Esq.

March 15, 1851.

which I have laid before the Commissioners. The choice with me lay between the Shannon and Galway. If the Commissioners remember, I went into the whole matter very fully. The Shannon I conceive in every respect the next best to Galway. I am perfectly acquainted with the Shannon, having in the years 1835 and 1836 examined every harbour and port in it, and had soundings and surveys of each of them made under my own direction. I was personally present at the taking of a great deal of the soundings and tidal observations. I would say that the Shannon was much to be preferred, if the port was equal to that of Galway, in every respect for packet purposes; and if it were situated as well for communication with other parts of the kingdom, that is, if it were as central. But the difficulty with me has been the long estuary, and the great tidal influence which prevails throughout the whole of the Shannon, which is most favourable for ordinary commercial purposes, but which I am afraid would be found (upon this subject, however, I speak with great diffidence) injurious, and would be so considered by naval men, because you would be as likely to have the tide against you as with you, on your arrival at least, however you might manage on your departure. The tidal influence is very great in the Shannon, particularly the ebb tide against westerly winds.

939. Can you state the speed at which the tide runs in the Shannon?—I can give you the actual results of our observations. I will refer the Commissioners to the Report of the Shannon Commission, in which the particulars of the tidal influence are stated. The rate at Tarbert, which was taken with great care, is 5 feet per second at half-ebb.

940. That is near three knots an hour?—Yes.

941. You do not assume that that would form any impediment; but it would be merely an element of delay?—Of course, not an impediment with such powerful vessels as are used for the Transatlantic passage. But I conceive that in narrow places large vessels of that class so long as 280 feet, and offering, by their deep draught of water, so large a section to the force of the current, would be very difficult to manage. Upon this subject again I speak with very great diffidence before naval men; but I conceive that a very large vessel off her speed coming-to in that way in a very narrow part, would be very difficult to be managed, at Foynes for instance, where the velocity of the current at half-flood and half-ebb, at spring-tides, is 5 feet per second.

942. What is the width at Foynes at the narrowest point?—It depends upon where you take the width. At the narrowest point, I fancy it is not much more than about twice the length of one of those large vessels. On the flood it is very narrow just at the place where the vessel would naturally come. The pier that we have constructed is here [*pointing it out on the Plan*], at the old quay near Foynes village. There is a long and crooked continuation of the narrow part, and on the ebb the influence of the tide is frightfully strong.

943. Is not there a wharf at Foynes with 22 feet water at low-water?—I think we are to have 10 feet at low-water. We are excavating it at present; it is all in mud. The tides rise there from 16 to 18 feet.

944. How is Tarbert circumstanced?—Tarbert was the place which, in discussing the merits of the Shannon, I took to be the best and most available port, in consequence of its being nearer the mouth of the Shannon, and of its lying on the south side of the river, those on the north not suiting any of the arrangements of the country. Tarbert has a great deal of good holding-ground in it; but in the very place which is most desirable there is a great deal of shallow water, at the oyster-bank, which lies close in to the jetty of the Steam Company. The current at ebb sets rapidly through it, and it is that which keeps it clear. The jetty which the Shannon Commissioners proposed to erect there has never been erected, in consequence of the local parties failing to guarantee their portion of the expense. The locality is only fitted in case of its adoption, as a station for the arrival and departure of the packets. There is no sufficient town or convenience of any description for a packet station without creating one. Everything of that sort would have to be created.

945. Supposing you were to apply the same amount of work that you have suggested for Galway to either Tarbert or Foynes, would that make it as good as Galway with the same amount of expenditure?—I think that if we were to interfere materially with the tidal operations in Tarbert, we should destroy the harbour, because what makes the port is the current passing through it. Anything that should be erected should be open—it should be entire wood or iron-work.

946. With respect to Foynes, what would you say?—Foynes is naturally very well sheltered. When once you pass through the narrows it is sheltered and capacious enough, and there is sufficient space of deep water; but you cannot pass out at the eastern end with vessels of a large draught of water except at high-water, for it is shoal. The cost of works at Foynes for vessels to come alongside would, I suppose, be less considerably than at either Galway or Tarbert. But then everything has to be formed there—a railway must be created, and all the accommodations that might be required for repairs and stores.

947. Would there be any great difficulty in executing a railway from Limerick to Foynes and Tarbert?—No difficulty whatever but the expense.

948. Is it an easy country?—Sufficiently easy.

949. What distance is it?—I should think it is about 30 miles to Tarbert.

950. How far to Foynes?—Something more than half that, I suppose.

951. Probably a very slight inducement would suffice to get the railway company to carry it to either place?—I think that if either of those places were adopted as the packet station, the railway company would make the line without hesitation; but at the same time, as I stated in the paper which I sent to the Commissioners in December, it is a line which would be competing with the existing river navigation, and therefore, like the Dublin and Drogheda Railway running alongside the coast, it would not afford the prospect of such an amount of traffic as a line running more in the interior.

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W. T. Mulvany, Esq.

March 15, 1851.

952. With respect to eny of those ports, how would the case stand as to the facility or difficulty of repairing steamers?—As to any port at which there is a town existing where shipping at present resort, I do not think any difficulty would exist, because as soon as the necessity arose, there is no question but that persons in other parts of Ireland would at once supply any deficiency. But at either Galway or Limerick there could he no difficulty whatever. At Foynes or Tarbert establishments would have to be created solely for that purpose.

953. Would the Company be obliged to undertake that, or would private enterprise in all cases be sufficient to meet tbe demand?—Wherever there was traffic besides that of the packets, for instance, at either Limerick, if tbat were available, or Galway, I have no doubt that the factories existing there at present would supply the de6ciency. But if they did not, houses in tbe north of Ireland, or in Dublin, or ou the east coast, would at once make arrangements, in connection with their present establishments, to have a sub-establishment at the port, and to send thither all matters requisite for the repair of the vessels or engines from their central establishments.

954. You are probahly aware tbat the fact is, that the great repairs to these vessels are now not done in the port of Liverpool, but that the vessels are sent to the Clyde?—In some extraordinary cases, where the work is very heavy, tbey must be sent to the original estahlishment.

955. You state that in comparing the time-tables, as between an English and an Irish port, you object strongly to Holyhead as a port of call. Your objection extends to any port of call. You think that the steamer ought to take her final departure from the port from whicb she starts?—I think the maximum of advantages would be in favour of that course. A port of call would he increasing the risk very considerably and increasing the delay somewhat, and it would not afford commensurate advantages for a change from the present system.

956. Have you heen sufficiently on the western or southern coasts of Ireland to be able to give an opinion as to the amount of fog prevailing there—whether it is more or less than in other parts of the United Kingdom?—I have lived in Galway and on that portion of the western coast for several years, and I have lived in Limerick and managed engineering matters connected with tbe Shannon for three or four years; and I have also heen a good deal in the south of Ireland. Tbe occurrence of fog in open bays ou the west coast of Ireland is very rare indeed. Of course, when you get into a long estuary you are not entirely free from them; but in the open bays, such as that of Galway and at Belmullet, and off Westport, the occurrence of fog is very rare.

957. Do you think there is more fog in the Sbannon than at Galway?—The impression upon my mind is that there is, hut it is a very vague way to give an opinion upon such matters. One should have an absolute record to be able to give positive information. In the lower part of the mouth of the Shannon, from Carrigaholt to the Loop head, I think fog is perhaps just as rare as at Galway; but as you get up the estuary, I believe it is not equally rare, from any observation that I made during the period that I was there.

958. As regards the Shannon, what is the rate of tide at Limerick?—The result of the tidal observations that I took showed a rise at springs of about 12 feet at the bead, and 18 to 20 feet at Limerick. The wave of progression goes up the estuary at that rate. The rise at Carrigaholt is greater than at the bead: at Kilrush it comes to 16 feet, at Foynes to 18 feet, and at Limerick up to 20 feet.

959. So that these large steamers could go up to Limerick at high tide for any particular purpose that might render it necessary?—At high tide they could.

960. What depth of water is there now at the end of the pier at Foynes?—There is any depth you please immediately outside the pier-head; 40 to 60 feet.

961. Could a vessel drawing 19½ feet water lie alongside, at low-water, afloat?—Not at present, but alongside a jetty, which might he projected for a few thousand pounds, outside.

962. How far would it be necessary to extend that jetty for a vessel to lie in 19½ feet water?—I would project it very little in length beyond the pier, and then turn it along the tideway, so as to lie with the head on the ebh tide.

963. What distance would you have to carry it from the present pier to get sufficient depth of water?—I fancy that an extension of 50 or 60 feet would hring it far enough, and then you would put on a T bead.

964. In that way you would get 19½ feet water?—You would get mucb more than that.

965. How much would it narrow the channel?—Not to injure it materially, as the Commissioners will see hy referring to the Plan. [*The Witness pointed it out upon the Plan.*]

966. Can you tell what is the width of tbe entrance at shoal water on each side, in coming in?—That is stated accurately in the Admiralty Chart, which I have not hy me at present, but I think there is quite sufficient width for the purpose. At the entrance you bave a strong tide setting outside, keeping the main channel, and you have a very strong tide between the island and the shore, and those meet together. If it is daylight, you would absolutely see which way to take your course.

967. Does the flood tide run stronger than the ebb, or is the ebh the stronger?—I think the ebb is the stronger of the two.

968. With regard to coal, has any one of these ports a decided advantage over the others in getting a supply of coal of the sort required hy the transatlantic steamers?—The south coast has an advantage, particularly Cork, from its facility of communication with Wales.

969. Is there any natural facility for obtaining coal in the Shannon?—We have very little coal in Ireland. The supply in the Shannon would he the Arigna coal, which would come down the Shannon navigation, now that it is opened, and it might he easily hrought to Limerick.

970. How would Galway be supplied with coal for this purpose?—As regards the Arigna

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W. T. Mulvany, Esq.

March 15, 1851.

coal it would come to Athlone and go by railway to Galway; but I presume that the great dependence of any of those western ports for coal would be by the carriage of it round by sea, when a sufficient amount of back trade existed to render the freight sufficiently cheap. I think coal in Galway, for ordinary consumption, varies from 23*s.* to 26*s.* a ton.

971. As regards the general question of a westerly Transatlantic packet station, are you of opinion that passengers would think it an agreeable change in the mode of travelling to save the Channel voyage, and to go across Ireland, and embark at a western port?—I think so; few travellers would complain of it. I have noted some matters with reference to the general question, which, if you will permit me to finish this particular question, I will afterwards advert to.

(*Mr. O'Flaherty.*) May I be allowed to say, with reference to the cost of coal at Galway, that it is much lower than Mr. Mulvany considers it to be. It comes within my particular knowledge in our contracts, both for the gaol and for the workhouse. I am a visiting magistrate of the gaol and a member of the Board of Guardians. We have taken a contract for coal for the workhouse at 14*s.* or 15*s.*

972. Is that the sort of coal which would be available for steamers?—I am not aware, but it is Welsh coal.

(*Sir Lucius O'Brien.*) The same remark applies to Limerick. I supplied my house with coal last year at 14*s.* a ton.

(*Mr. Long.*) Under peculiar circumstances we buy coal at Limerick at 10*s.*, and most probably, under similar circumstances, it would be 14*s.* at Galway; but that cannot be considered the ruling price. The circumstance which has rendered it available at that price at Limerick is, that Limerick is a very important exporting port for corn, and vessels come over either empty or with coal, and under those circumstances we get a large amount of coal, I believe to the amount of 30,000 tons a year, at that price.

(*Mr. O'Flaherty.*) That applies equally to Galway. I myself supplied my house at 8*s.*; that was during the great exportation of corn: vessels were brought in with coal for the purpose of sending them off again with corn.

973. Is it the same sort of coal that the steamers use?

(*Mr. Long.*) The steamers upon the river Shannon altogether use turf, and all our large engines use turf.

(*Mr. Mulvany.*) But of course turf cannot be used in transatlantic steamers. I can state that previously to the famine, when there was a very great export of oats from the west coast of Ireland, vessels were enabled to bring back cargoes of coal, or any other matter, at a much cheaper rate than when there is no such trade for them. The price of coal that I spoke of was from the information of private parties for consumption in their houses, for which they use the best Whitehaven coal. The class of coal which they use is probably not at all that which could be used for steamers; therefore I can readily understand that Mr. O'Flaherty is correct as to getting a contract for the Poor-house at a lower price; and I am glad of the correction, because I might have been understood as speaking generally.

974. Is not the coal used for the transatlantic steamers of an expensive kind?—It is, I believe, South Wales coal; South Wales could send cargoes to Galway much better than Whitehaven could.

975. Of course the effect of an increased quantity of coal being required for the steamers might either be to cheapen it or to raise the price. It might cheapen it by making it worth while to bring large quantities; or, on the other hand, it might increase the price in consequence of there being no back freight for so large a quantity as would be required?—It might have that effect; but I take it, the great probability would be that it would cheapen it, because one source of trade begets another in very rapid succession. Besides, I think you would have in either of those places the competition to a small extent of coal from the interior.

976. The best coal from South Wales costs about 8*s.* 6*d.* or 9*s.* a ton at the port of shipment; what increase do you think the expense of the freight would make between South Wales and the west coast of Ireland?—If you were to take it as a freight solely for the voyage out, it would be a very high price indeed. You cannot send freights round that coast from England, or from the Channel, at less than from 14*s.* to 15*s.*, and sometimes a great deal more, per ton. Therefore the question would mainly depend upon their having back-trade. We have frequently paid, for public purposes, from 15*s.* to 18*s.* a ton to send cargoes round to the west coast of Ireland, from the east coast.

977. That is for taking up vessels for occasional purposes; but, of course, if the trade were regular and permanent, the cost would be reduced?—Yes; I remember that to Valentia, for slates, the freight was about 15*s.*

(*Knight of Kerry.*) The freight, I think, now is about 14*s.* to 15*s.* per ton to go to Wales to fetch coal, and to return with slates.

Mr. Long.—At Limerick, in the regular course of trade, the freight to Wales is 10*s.* a ton.

(*Mr. Mulvany.*) In fact, the more trade you have of every description, the more you reduce freights; and that is precisely the case at Limerick. Lower down, at the mouth of the Shannon, and even at Valentia, it is 14*s.* or 15*s.*, whilst further up the Shannon, at Limerick, it is 10*s.* There was a question connected with the use of both wet and graving docks for paddle steamers, on which I ventured to offer a suggestion as to an alteration which might be made in the dock gates and works, in order to give greater facilities. It affects both Limerick and Galway. I presume that the use of the dock at Limerick would be only occasional, when there was a sufficient depth of water to bring the vessel up. I have a model here [*producing the same*], to show how existing docks might be altered, or new ones built, whereby a paddle-steamer could be passed in without much increase of expense. Take either the dock at Galway or the dock at Limerick to be about 55 or 56 feet wide; the dock at Galway is 56 feet wide,

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W. T. Mulvany, Esq.

March 15, 1851.

inclusive of the fencing timbers. What I propose to do, is to cut off a small portion of the upper part of the gates, and to take down the masonry to below the line of immersion of the bottom of the paddles of the steamers, so that the paddles can float in over the lower masonry.

978. Must you not take the engine out?—No; I will assume the draught of water, laden, at 19 feet 6 inches, which, I believe, is about the draught of Cunard's vessels. The paddle is then immersed, I suppose, about three or four feet; then we cut down the gates so low as that at high-tide, when she would be drawing 19 feet 6 inches, the bottom of the paddle-wheel would pass over the lower masonry into the dock. By the very slight expense of merely cutting down this part of the masonry, and re-constructing the lower portion, and fixing an upper wide pair of gates [*pointing out the same upon the Model*], the existing dock could be altered to allow those very wide steamers to pass in. If this should be found to work well, it is questionable whether it would not be the wisest course to adopt in building any new docks, because you save considerable expense in the construction of your gates. At any rate, it enables us to meet the difficulty arising from the tendency to increase the width of steamers; and it does no mischief at all. There is also this advantage, that there is not the same pressure upon the wide gates. If you have 74 or 78 feet width, you generally require great depth; and in deep docks, you have immense pressure.

979. Whereas the hull of the vessel is very little increased in width?—Yes. In places where the tide is very high, the pressure upon the gates, with an opening of 74 feet, is enormous; and it is very undesirable to have that great width below. Therefore I think this modification would be applicable to meet the case.

980. With regard to the Arigna coal-mines, are they worked at present to any extent?—Not to any extent in a commercial sense. They are only for local consumption. They were greatly embarrassed up to a very recent period by the existence of some claim upon them, from which they have recently got free. I believe exertions are making to resume working them on a commercial scale.

981. You are aware that Mr. Griffith, who is a first-rate geologist, stated that the Arigna Collieries could never be worked to any great extent with advantage?—Yes; his opinion is, that the depth of the seams of coal is too small, and that they are too numerous to make them workable to any great extent. But if coal can be imported into Galway or Limerick at the prices which have been mentioned by gentlemen more conversant with the subject than myself, I do not see that it is necessary to rely upon local coal.

(*Lord Monteagle.*) I am afraid I must say that you cannot rely upon any local supply of coal southward of the Shannon. I mention it the more readily because there is a very flaming account of it in Sir Robert Kane's book, as being available, but I do not think that for the purposes under the consideration of the Commission you can at all rely upon any production of coal from that district—which is in fact my own. I think it would only lead you astray to do so.

(*Mr. Mulvany.*) There is nothing but culm in it. Sir John Burgoyne asked me for some information as to Lough Athalia, and the excavation for the entrance into it. I wish to correct a statement made in one of the papers which I sent in, to the effect that the opening of the swivel-bridge, formed by the Railway Company across Lough Athalia, was sufficient to pass in the largest steamers. I find that we only required the Railway Company to make it 50 feet, and the Admiralty went beyond us, and required them to make it 60 feet, but not more than that; so that I am afraid it is no more than 60 feet. At the same time, without presuming to express an opinion upon the subject, I am rather disposed to think that perhaps a less width may be used for a great many purposes, and that the opening would be available for those purposes.

982. There was a bar at the entrance of the dock at Galway; is that in existence still?—We have nearly completed the removal of it.

983. And there is as much water over that bar as there is over the sill of the lock?—There is. With reference to the section of the excavation into Lough Athalia that would be requisite to pass through the 60-feet opening of the swivel-bridge of the railway, it is not a subject, perhaps, requiring consideration from this Commission; but as it has been referred to, I may observe that it will perhaps be executed by private parties at some time or another. The expense has been estimated at about 21,366*l.* to excavate a channel of 100 feet in width through that rock into the lough, passing through the 60-feet opening of the swivel-bridge of the railway.

984. You have some suggestions to make with reference to the general question of a Transatlantic Packet Station?—There are some remarks with reference to the general question which I would wish to submit to the Commission. It appears to me, that if by starting from Ireland the length of the voyage be materially diminished, it will ultimately tend to diminish the necessity for the great draught of water, which it seems to be the tendency of the day to give to those vessels. If the views entertained on the other side of the Atlantic are carried out, as to making a transatlantic port near Whitehaven, or Cape Canso, in Nova Scotia, the result would be to carry a great deal less coal, and thereby to get rid of a considerable portion of dead and useless weight, and the tendency of that will be to diminish the draught of water, and perhaps to attain greater speed. The speed at present attainable, according to what I have seen of the voyages, appears to be from 10 to 11, or rather exceeding 11 knots an hour. If the voyage can be shortened, it meets a great many questions; it lessens the expenses of the voyage, the number and the cost of the vessels also. It appears to me that the trade in goods is a matter of minor moment when compared with speed in the conveyance of mails and passengers. In reference to this question, I have understood that one of the reasons of the present great draught of water is, that it is necessary, at the sacrifice of speed, in order to carry a large quantity of goods in addition to the large quantity of coals which a long voyage requires.

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985. Does not the freight of goods materially affect the question of expense to the Government?—That depends upon how the trade will ultimately settle itself. It appears to me that starting from Ireland, you would have a trade which you have not at all for the steamers from Liverpool, and cannot have, and that is the carriage of numerous passengers at a very low rate. The emigration from Ireland is going on at the present moment. However undesirable it may appear, it is a fact that you have to deal with. It is going on to an immense extent, even still, and it seems likely to go on. Now those persons who emigrate, frequently have to go over to Liverpool, at present, and then to go in sailing vessels. There are a very great number of them, and it costs them a very considerable length of time, and a good deal of money, to go back out of their course to Liverpool, to start thence; and then, by a sailing vessel, they must be a considerable time on the voyage, whereas, if a steamer, starting from the west coast of Ireland, adopted the policy of carrying passengers of that class at a low rate, I think the people could afford to pay much more than they do now for their passage, and yet get over to America much cheaper than they do at present. Numerous instances have occurred to myself, and to others who have seen them, of the sacrifice of money and time that those poor people must endure before leaving England. I think it is more than probable that a steamer fitted out for the conveyance of passengers, would be found, ultimately, by the adoption of low fares and by making the voyage from Ireland at less expense, and in consequence of their construction attaining higher speed, to pay just as well as those which are fitted for the carriage of goods from Liverpool; or by shortening the voyage in consequence of starting from Ireland, they might carry less coal and dead weight, and so have more available space for goods even with the same draught of water. The vessels that ply at present between Holyhead and Dublin attain 13 to 14 or 15 miles an hour. The one I came in last night made, I think, 13 miles an hour. But I do not think that a vessel starting from the western coast of Ireland would be without trade.

986. How would goods get from Belfast to Galway?—By railway, at present. They may soon come by water to Athlone, and rail to Galway.

987. Is there any railway at present?—The railway is nearly completed to Dublin.

988. What would be the charge, by railway, of sending a box of goods from Belfast to Galway—how much per ton?—I am not prepared to state. I lately met an agent from America, who is at present in Ireland, employing people in sewing muslins very extensively. The raw muslins are manufactured and bought in Belfast to be sewn in Ireland, and are then sent to America.

989. How do they send them?—At present by Liverpool every week.

990. Would they not probably send them by their own country vessels?—It is probable that they do so; but their interest is to send by whatever steamer is ready. I merely mention the fact. Labour is so cheap in Ireland that they find it worth while to send over here to have the muslins sewn in Ireland. They never attempt to sell one of them on this side of the water, but they send them all to America by Liverpool. They send over their agents to have them prepared here, and to give them out. They and the Scotch houses employ people over the whole face of the country, and many near the west coast.

(*Mr. O'Flaherty.*) It is a source of great employment. In the workhouse at Galway there are 300 of our pauper women employed upon it at this moment.

991. Is it all done by hand?—All by hand.

992. Do not you think that the merchant would send goods by the cheapest mode?—Yes, and the quickest in this trade.

993. Do you know what is the carriage from Belfast to Galway by railway?—No.

994. Do you know what the freight is from Belfast to Liverpool?—I only know it by the evidence given in a paper of Mr. Kennedy from Belfast, at a meeting at Dublin, of which I was reading within a day or two. I think he says it is 20*s.*, and that for that sum, or a less sum, as well as I can recollect, he stated that he could send it to Galway.

995. What is the distance from Belfast to Galway by the proposed line of railway?—The route from Belfast to Galway by the existing railway would be through Dublin.

996. It has been stated to the Commissioners that the carriage by railway from Belfast to Galway is the same in amount as the freight from Belfast to Liverpool?—Then it would be a decided advantage to send them to Galway, because the people who come to buy from America, the American agents, have now to come to Liverpool in the first instance, and then to pass over to Belfast—and then they have to cross over again to Liverpool; whereas if they could land at Galway, they would transact their business in Ireland, and then cross over and do their English and Scotch business, and return to the west coast, all *en route*.

997. Can you state another sort of trade which would come largely into use, in that way, except the trade of Belfast?—No; except the linen trade, which is extending itself very rapidly, and I think will extend itself all over the other parts of the kingdom; and the flax trade. Ginghams are also sent, I understand, from Ireland to Scotland, sold in Glasgow to American agents, and sent from thence to America. There is another question that suggests itself, to which I adverted in my last paper, with respect to the Post-office arrangements. It appeared to me that we are running in opposition to ourselves to carry the mails from the west coast of England all round the south of Ireland to a point on the same longitude to which we send mails right across Ireland, when the conveyances for those mails would be necessarily obliged to carry all the mails, whether American or otherwise, along the route which those mails at present pass. I understand that some difficulties would be found in some matters of detail about making up the mails, and sorting the letters for that purpose; but I presume that these are only matters of detail. It appeared to me, and I venture to offer the suggestion, that bags might be made up at each place on a certain day on which the American mails were required, and that they might be sent merely directed to America, and be sorted on board the

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W. T. Mulvany, Esq.

March 15, 1851.

vessel as she went out, in the same way as they sort them in the railway carriages; and that the same thing might be done on the return voyage. So that without any increase of expense letters could be carried to the west coast of Ireland by the existing railway communications, and across the Channel by the existing mail communications, and despatched thence for America with the saving of time, to which I adverted in my last paper, and with a saving to the vessel of at least 24 hours in her sailing expenses of every description, and so rendering either a less number of vessels sufficient, or enabling them to make a greater number of voyages in the year. The only other matter which occurs to me is, that I take it to be injurious to the shipping interests of Great Britain to allow Galway or Limerick to fall into the hands of our friends on the other side of the Atlantic for their shipping communications. But I think that will be very apt to be the result in the event of their coming to compete with English interests, because by establishing a communication from the west coast of Ireland they would have very great advantages over vessels sailing from the west of England; and having once obtained those advantages, they would be likely to carry on many other traffics which would otherwise go in British bottoms. That is an argument in favour of our sending through our own dominions, as far as we possibly can, every species of communication and traffic, and now commanding it within our own limits before it is too late.

998. Have you considered any improvements that would be required in the communications between the different railway stations at Dublin and at other places?—I have. And one argument to which I omitted to call attention, was the fact that Galway seems better adapted to meet the future wants of the country in this respect than any other port on the west coast of Ireland. The very lines which it is necessary for the country to make for local purposes will facilitate communication with Galway. I represented that upon the plan which I sent. I showed that as regards Belfast for instance, which I consider is the most important place in Ireland, you have a line of railway already formed from Belfast to Armagh, and I believe a Bill has passed for a line of railway from thence to Clones, and Bills exist for northern lines from Londonderry and from Dundalk. A Bill also exists for the extension of the railway from Mullingar to Longford, and a line to Sligo has been laid out. All that will be wanted then to connect the north of Ireland directly with Galway would be a connexion across from Clones, by Cavan, to Longford, a very short line, 30 or 40 miles. I have adverted in my last paper to the circumstance that from Longford, at some time or other, it will be necessary to make lines of railway into the northern parts of Mayo, crossing the Shannon near Longford, off which a branch extending to Galway would necessarily be made, in the event of Galway being the port of departure for America.

999. At present from Longford you will have to go by Mullingar to reach Galway?—If that line were formed you would. At present you come from Belfast by the existing lines. There is a gap between Portadown and Newry, which is in progress of being filled up, and when that is done you will be able to travel from Belfast to Dublin, and from Dublin to Galway. In the south, a line from Waterford to Tipperary is making. From Tipperary to Limerick it is made. From Limerick to Ennis there is perhaps more traffic in proportion to the distance than there is in any other part of the country. There is no railway; but it is a line in which a railway will be made, and then all that would be required to connect the line of railway would be from Ennis to Gort, which is already a line of mail communication. There is one other point which is of importance. It appears to me that it would be essential, in order to attain the maximum of advantages, that Dublin should have its different lines of railway connected together, and I have therefore figured on this Ordnance Sheet of Dublin [*producing the same*] the existing railways and the mode by which the connexion may be made. The connexion which is of the greatest moment to this question, as regards Galway, is the one between the Kingstown Railway and the Midland and Great Western Railway. As regards Limerick, it would be the important connexion as between the Kingstown and the Great Southern and Western; a line which has been often strongly pressed, along the Grand Canal, will afford that advantage. The connexion with the Midland Great Western would be either by a short line to Sir John Rogerson's quay and a ferry to the Royal Canal Docks, to which that Company are about to extend their line; or, better still, by a line starting from near Westland-row, passing near St. Mark's Church, across the Liffey east of the Custom-house to the Drogheda Railway station, from which a connexion would be made with the Liffey branch of the Midland Great Western close to the Royal Canal. Thus the Northern, Western, and Kingstown lines would be joined. This latter line would pass through property of very little value, and by having a high-level bridge you would pass the railway over the high-level bridge and pass the traffic under it on a bridge much required for the city.

1000. Would it not be objectionable to stop the water-traffic?—I think not.

[Adjourned till Tuesday next at 12 o'clock.]

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TUESDAY, 18th March, 1851.

The Right Hon. the Earl GRANVILLE in the Chair.

Deputation.

March 18, 1851.

The following gentlemen attended as a deputation:—

The Right Hon. the Lord Monteagle.	*William Torrens McCullagh, Esq.*, M.P.
William Monsell, Esq., M.P.	*Admiral Robinson.*
Anthony O'Flaherty, Esq., M.P.	*The Knight of Kerry.*
John O'Brien, Esq., M.P.	*Andrew Blake, Esq.*
Martin Joseph Blake, Esq., M.P.	*W. Randall, Esq.*
Henry Arthur Herbert, Esq., M.P.	*John Long, Esq.*

1001. (*Chairman*) I believe the gentlemen here present to-day are chiefly representing the River Shannon. Two or three gentlemen are also here on the part of Galway, respecting which we had evidence the other day.

(*Lord Monteagle.*) Before we enter into evidence as affecting the River Shannon, we wish to add a few points upon the general question, which we consider as of essential importance in the discussion of this subject. We wish, in the first place, to point out some statements which were assumed as only hypothetical on the face of the earlier documentary evidence which you have before you, but which are now reduced, by experiment, to matters of certainty. We wish thus to point out to you the difference between some of the earlier documentary evidence, and the existing facts; but, beyond that, there is one matter of very great importance, which I believe I am now in a condition to state from authentic information. Your noble Chairman probably knows it officially; but it has been communicated to me, not from an official source, but from what is tantamount to an official authority—I mean from Mr. Howe, the Colonial Secretary of Nova Scotia, who was examined the first day of our appearing here. I have learnt that Her Majesty's Government have, as I think most judiciously and wisely, agreed to guarantee the Great Halifax and Quebec Railway, and that we may therefore almost consider the future execution of that railway as provided for. There are also in progress lines of railway from Quebec and Montreal to the south east, meeting together in a V near a place called Richmond, and being carried on from thence to Portland, a United States Atlantic port. There is also in progress a proposed line of railway from Portland along the coast by Truro, and thence by the line now proposed to be guaranteed; namely, a line of railway from Halifax to Truro, that being common to the two lines. The new Quebec and Halifax line will pass to the northern from Truro, nearer to the Bay of Chaleur, will be completed exclusively upon British territory, approaching the line of the St. Lawrence, and terminating at Quebec. Then further, you have an electric telegraph already in operation from Halifax to Quebec, and from Halifax into the United States territory to the south and south-west. I call your attention to these facts, not as the mere announcement of an important political and colonial result, but on account of their bearing upon this question. In the first place, it has an important bearing upon the question of emigration—European emigration—upon which, more or less, the profits of Transatlantic packets will depend, constituting an important item in the amount of receipts to be set off against the expenditure. I consider that Irish Transatlantic packets will have a tendency to reverse the existing proportions of our emigration to North America, and in place of seeing such emigration, as at present, for the most part directed to the United States, I think it will hereafter for the most part be turned to British territory. Out of 480,115 emigrants to North America in the last two years, 407,683 went to the United States. Such is the first new fact that I wish to take the liberty of urging upon your attention as bearing upon the whole question of Irish emigration. We know that it appears upon the face of the Emigration Reports, that the great bulk, perhaps nearly nine-tenths, of the whole emigration to North America is an Irish emigration; and, therefore, if the establishment of packets is considered to be advisable upon other grounds, could be made auxiliary to that emigration; if in the line of packets established pre-eminently and principally for postal purposes, you should secure spare freight applicable to emigration, the whole of that emigration might be taken as clear gain, and must be held to be a set-off to the expense of the packet establishment, considered in itself. There is another question to which I wish to take the liberty of calling your attention. I allude to the importance of Irish western or south-western transatlantic packets as bearing upon the military reliefs of this country. I would refer you upon that subject to evidence given at different times (which, I presume, is before you), and given under circumstances differing from the present, but differing only in this most important respect, that every one of the arguments then relied upon becomes doubly strong at the present moment; and the whole will be found to lead to the one conclusion—the beneficial consequences that would result from a western harbour. I refer to the evidence taken so long back as during Lord Liverpool's Government, and before the Commission of Revenue Inquiry. That is the first evidence to which I wish to call your attention. The Report was presented to both Houses of Parliament; in the year 1834 to the Commons, and in the year 1835 to the Lords; and it became the foundation of a subsequent Committee of Inquiry in the House of Lords, which sat in the year 1836; and to this evidence, as bearing upon the military branch of the question, I wish specially to take the liberty of referring you. The first evidence I would quote is that of the late Knight of Kerry, who was, as you are aware, very much interested individually and as an Irishman in this matter. He states that he had had communication with the late Duke of York on the subject of the military bearing of the question, and that the Duke of York in an official letter (which I presume may still be preserved at the Horse Guards) acknowledged his sense of the great benefits that

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Deputation.

March 18, 1851.

would be derived to the military communication from such an establishment. The same witness states that he next addressed the Ordnance Department, the Duke of Wellington being Master-General. His Grace expressed his conviction of the great public utility of such an establishment, if it could be formed. The witness referred the subject to several other Cabinet Ministers —Lord Liverpool, Lord Harrowby, Mr. Canning, and Mr. Peel—who all concurred in the public advantages likely to arise from such a packet communication as was proposed. Lord Liverpool said that, sooner or later, a western harbour must be the point of departure. On the Duke of Wellington's recommendation an Act of Parliament was passed, granting limited liability to a Company. The opinion which I am about to read next, though not a military opinion, is the opinion of a gallant Admiral, whose knowledge of the whole subject I believe every person around this table is capable of appreciating—Admiral Beaufort. After remarking on the advantages attending a western harbour in time of war, he adds, "Should we again be engaged in active hostilities, the benefits would be incalculable; even the regular reliefs, which sail in time of peace, would feel its advantages. Recruits would gradually move across England and Ireland, their health and discipline would improve by escaping the large sea-ports, and their embarkation might immediately follow their arrival on the coast. This may be put in another point of view. A large force would thus be kept in Ireland, gradually moving on to the point of departure, readily detachable in any direction, and effectually occupying that country without having the appearance of a garrison." I now proceed to refer you, in further illustration of the military part of the case, to the Report of the Lords, in the year 1836, and to the evidence given on that occasion by the Duke of Wellington, by Lord Beresford, by Lord Strafford, as well as by a gallant officer, Major-General Sir J. Burgoyne, a member of your own Board. The Duke of Wellington doubted whether, with respect to large expeditions of troops, there might not be a difficulty in finding cover for them (you know what "cover" technically means in such cases); but he added, that in respect to the regular relief of the army, there was no doubt about the matter. I will read you his words: "There might be great facilities in giving cover to a battalion, or two or three battalions, that might be sent annually from Ireland. I know that at Cork and the south of Ireland there are means of giving cover with the greatest facility to one, two, three, or four thousand men, that might be required for the annual reliefs of the West Indies or Mediterranean, or whatever reliefs may be wanted to the south or west; and I have no hesitation in saying that a voyage would be much more certain from the west coast of Ireland than it would be from any port in the Channel. It would be a great convenience to the military department to be quite certain of carrying on their reliefs from that particular point. If the internal communications in Ireland were improved, there would be increased facility in carrying on these arrangements." That improvement is now effected. Lord Beresford stated on this branch of the subject, "As to reliefs, there can be no doubt that in time of peace, and when the troops are sent out by regiments, it would be a very desirable object for the reliefs." Sir John Burgoyne, then Colonel Burgoyne, states, "Very great facilities would be afforded for troops. I should think any military man who served in the last wars, and went abroad from the Channel, must be aware of the difficulty of getting out. They are frequently delayed for a wind, which would rarely be the case from the south-west of Ireland. In the embarkation of troops and public stores, of a nature and for occasions where a saving of time is of sufficient consequence to justify the formation of depôts, the reducing of the time of transport of soldiers by sea is at all times a measure of great service, and even of economy. But in war a gain of time is usually of paramount importance, and may, and frequently does, influence the whole fate of the contest." To this should also be added the following evidence:—Admiral Otway states, "I consider it would be of great advantage to the west of Ireland making it a packet station, stationing the king's packets there. I was in the West Indies early in the war, and we lost island after island; when, if the troops could have come out immediately, the country would have been saved some millions. We were nearly six months waiting for the troops that went out. St. Vincent was burnt, the whole of Grenada was destroyed; and if we had had 3,000 or 4,000 men in the first instance, all this mischief would have been saved." Now the Commissioners will observe that the earlier part of this evidence was given by these high military authorities at a period when Transatlantic steam navigation was considered merely an unsolved problem, when you had high philosophical authorities coming forward to prove that it was mechanically impossible; when you had nautical men doubting whether the passage could be effected, and laughing at it as a baseless and impracticable scheme; and, above all, when there existed no internal railway communications whatever in Ireland, Therefore I think I am justified in saying that whatever weight is due to this testimony, as bearing on the military branch of the subject, in influencing your mind, it becomes infinitely stronger now that the passage of transatlantic steamers has become a matter of absolute certainty, and when the railway communications of Ireland have been brought, if not to absolute completion, at least to a sound state of maturity. I need only call your attention at the present moment to what has appeared in the public prints within the last week; we find that in the exigency which has arisen in consequence of the Kafir War, the "Singapore" steamer has been taken up for 300 men at Southampton; and the "Vulcan" is at the present moment taking out an entire battalion of the 74th regiment from Ireland; therefore I humbly submit to your Lordship and the Commissioners that, independently of the grounds upon which we have hitherto dwelt, which are mainly postal and commercial, we have upon this military question opened to you considerations of no common interest, but, on the contrary, of peculiar importance as bearing upon our relations with the United States of America, as well as with British North America.

1002. (*Chairman.*) Can you state from memory whether any particular port was recommended then?

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(*Lord Monteagle.*) No; the Lords' Committee did not come to any special selection.

1003. I think they recommended Valentia.

(*Lord Monteagle.*) They came to no distinct recomroendation as to any particular port; they discussed the general question of a western harbour. Much of the evidence adduced in support of the harbour of Valentia, hut the whole general reasoning applied to the harbours of Ireland generally, and it is as such that I offer it to you. I may say, in conclusion, upon this point, that when I had the honour of serving his late Majesty King William the Fourth as Secretary of State for the Colonies, I remember in the year 1834, at the critical time of the emancipation of the negroes, I remember sending out a steamer—I think it was the "Rhadamanthus"—to Lord Sligo, who was then Govemor of Jamaica, and his answer to me was—"The 'Rhadamanthus' is worth to me more than a hattalion of 1000 men." A rapid commmication between Europe and America will have the effect of strengthening our military resources on hoth sides of the Atlantic, by rendering them more rapidly disposable. Now, to resume, the general question; I allude to the question of postal communication, more especially in connexion with the electric telegraph. Whatever else may be douhted, although some may possibly doubt whether it would suit the convenience of passengers to land and embark in Ireland, thus shortening the sea-voyage—though I think they must be very sceptical persons who so douht—whatever further doubts may be entertained as to the advantage with respect to the transmission across Ireland of heavy goods (as to which I think he would he somewhat of a credulous enthusiast who would believe that Ireland could carry away any very great amount of such traffic from Liverpool and the districts where such heavy goods are produced)—in short, whatever may he the doubts entertained on these subjects, there can he no douht at all that wherever there is created the most certain and expeditious postal communication, the competition and necessities of the commercial world will compel every nation and every merchant who can send political and mercantile advices hy the very quickest way, to profit by that route. I have before me the evidence of Sir Howard Douglas and Lord Aylmer to this effect; and I can add my own during the short time that I was at the Colonial Office, when at the sacrifice of the more independent means of communication through British territory, the necessity of speed was so urgent that even despatches of the greatest importance and requiring the greatest secrecy were sent to British North America, for expedition's sake, by New York. The route through a foreign country was preferred at all risk to the less expeditious route through British North America. I cannot help thinking that the authorities of the Post Office would be able to furnish the Commissioners with evidence as to how much the postal communication is likely to he increased by the proposed railway from Halifax, communicating through the state of Maine and Boston to the south, and with Quebec and Montreal to the west. Further force is given to these arguments since the completion of the great line of the St. Lawrence and lake canals which are now opened in British North America. It should be remembered that if you get your postal and emigration communications completed by the roost rapid route to Quebec and Montreal, you find yourself in connexion with a canal communication which opens to trade and to the forwarding of emigrants without transhipment the whole of Western Canada and of the lakes of Ontario, Erie, Huron, and Michigan—so that a vessel can go all the way from Quebec to Chicago in the state of Illinois, which is about 1600 miles, the time occupied in the transit being about ten daya. Passengers may thus travel the whole distance from Quebec to Cleveland, in the state of Ohio, for 24*s*. All these lines of water-communication have been completed since your predecessors in this inquiry had occasion to consider this matter, and they greatly strengthen the necessity of adopting an Irish western port. I entreat you further not to confine your attention upon this postal question to the mere internal postages of this part of the United Kingdom; if you inquire at Liverpool, I believe you will find that of the North American letters a very large proportion are for the Irish, marking the peculiar importance of the connexion hetween the two countries. And I respectfully further contend—and I contend upon high authority—that it is not the English postage only that you will have to deal with, hut the whole of the European postage, at least that portion between North America and Europe north of the coast of France. I think, with an Irish western port, you would beat Havre and every port in the Channel. You would have the carriage of all the letters from Holland, Belgium, Hamburgh, Northern Germany, and the Baltic. You would include the whole of that correspondence through British territories and make it contribute to British interests; *à multo fortiori* all electric telegraph despatches would be forwarded in like manner. I have already told you that Lord Aylmer, when Governor of Canada, always urged despatch of communication, and that he corresponded with the Colonial Office through the United States for the sake of such despatch. Lord Aylmer observes, "I have heen always extremely urgent with the Colonial Department to transmit information they were desirous should reach its destination quickly by New York." I find that, on the theory of the case, an intelligent witness who was examined hefore the Lords in 1836, Mr. William Bald, comes to the same conclusion. He says, "I am of opinion that if there were a packet station on the west coast of Ireland and a railway communication opened, the whole of the people belonging to the British Eropire having business with America would take that direction in going to America. It would shorten the voyage very considerably. It would attract commercial correspondence. I should think that all the Americans that had any intercourse with either the British Empire, the countries bordering the Baltic, Holland, or the north of Germany, would pass through Ireland, and also take it as a point of departure for America; which, in my opinion, would be most beneficial to the whole of Ireland, and also to the entire of the empire. The regularity and shortness of the sea-voyage would attract vast numbers." I have another point on which to trouble you, in reference to the general question—it is to ask you to

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Deputation.

March 18, 1851.

take into account carefully the question of emigration, and to consider its importance, not only as supplying a fund in the way of passage-money, diminishing the charge of the packets upon the public, if the balance of the account should ultimately be found to be on the wrong side of the book, but also as being a probable source of great—I may say enormous, mutual benefit and future profit. We have in the Report which I hold in my hand, an estimate by the Government Colonial and Emigration Commissioners of the amount expended by private parties in the emigration of last year. You would hardly think that it could have amounted to the sum of 1,700,000*l.*—such is the calculation of the Land and Emigration Commissioners (Tenth Report, Appendix 4, p. 69). To North America, with which you mainly have chiefly to deal, the expense of the passages is calculated at 750,000*l.*, and the cost of extra provisions, of the conveyance to the port of embarkation, and of maintenance there, at 340,000*l*; therefore there has been 1,090,000*l.* spent upon North American emigration alone. But there is an important part of this subject bearing more directly upon your inquiry. Towards that amount 460,000*l.* is reported by the Colonial and Emigration Commissioners to have been remitted from America, and almost exclusively to the Irish, in a single year; and the following year, 1849, so far from showing a falling off, showed there has been an increase from 460,000*l.* to 540,000*l.* In the last year the remittances here exceeded 950,000*l.*, and this only being the amount remitted through the principal houses. Now that money, available for that purpose, would naturally be used by the Irish emigrants in availing themselves of the spare freight that the Post Office packets would afford; and when I find that what you have to deal with is a competition of passages of 45¼ days from Liverpool to Quebec, and 35 days from Liverpool to New York—and from London 52¾ days to Quebec, and 43½ days to New York—and that a great bulk of the Irish emigration is in addition now brought over from Ireland to Liverpool, being forced out of its way in having to go so far east, and then having to go back again by the south to the west, possibly resting awhile on the way, not very much to the improvement of Liverpool. I am at a loss to conceive how any one can doubt that a very great mass of this emigration would be diverted to your packets, the freight being thus available in diminution of the expenses, and in forwarding the object of an enterprise which is likewise defensible and indeed necessary for military and for postal purposes. There is only one consideration more which I might be permitted to urge. It is a curious confirmation of my anticipation at the time of my first attendance before this Commission; I then suggested as a probability that if this line of communication were not supplied by the British Empire, I had very little doubt it would be practically considered by the United States. I now find that the citizens of the United States are already turning their attention, not merely to the general question of more rapid and active communication with Europe, but to this special question of an improved communication by steam with Ireland. I find in a New York paper, which has been put into my hands, of February last, a paragraph which is significant. It states the advantages of such a line of mail communication. It states that the American line of packets must be a mail line, and, in consideration of its mail services, must receive allowances from Congress, and that the vessels for the line must be constructed under the supervision of Government Inspectors, to be deliverable and made applicable for war purposes. When you consider that the scheme may be undertaken and is for the avowed purpose of promoting a war steam navy, and applying it in a communication between the United States of America and Ireland, I leave the Commissioners to draw the inference whether such a result is one which it is very desirable to encourage, and whether by neglect we should leave this line to fall into the hands of what must always be an independent, will sometimes be a rival, and may be occasionally an enemy's country, when we have the means of securing the same advantages for ourselves. That is all I have to say upon the general question, begging, however, in conclusion to refer you to the very able Report of the Railway Commissioners, over which the late Mr. Drummond presided, and which, notwithstanding it was written before the entire success of ocean steamers, before the execution of the railways between Dublin and Limerick and Cork, and the undertaking of the railway from between Waterford and Limerick, before the opening of the Upper Shannon Navigation, and the execution of the harbour at Foynes, concludes as follows:—

"Having endeavoured to explain that by the construction of the best line of railway between London and Dublin, and Dublin and Cork, the latter being established as the fixed port of embarkation, *a more certain, expeditious, and convenient, if not a cheaper communication, would be effected than from any part of Great Britain directly*, unless with partial advantages from Bristol only, and that even from Bristol circumstances are likely to induce many vessels to touch at Cork—we may safely urge the construction of these railways as a consideration of national importance, independent of the direct profit from increased business. The policy is not to be estimated by the simple calculation of the manner in which the intercourse between Great Britain and North America might be carried on. We know that it is a question of doubt still pending whether Havre, or some other port in France, or a port in the British Empire, shall henceforth become one of general resort for the business to America for a great part of the Continent of Europe, and a favourable result for our own country *can only be obtained* by the establishment of facilities infinitely superior to Havre or other French ports.

"We have thus far considered the subject of this proposed method of intercourse with North America as of a mixed character, being equally adapted for *passengers, goods, and letters*; but if a periodical line of packets were established, for the conveyance of *mails and passengers*, with a few very light articles only, and that the question had no reference to the accommodation of vessels sailing from British ports, we consider *there would be advantages in fixing its permanent station at some port in Ireland provided with a railway communication*, chiefly because, by reducing the length of the entire voyage, *a smaller number of vessels would perform the* service with more certainty and safety, while at the same time *the means of reaching such a port from any part of the empire would* be perfectly easy. Should such a system hereafter be judged expedient, we are inclined to think that

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perhaps *Tarbert might be the most appropriate station*, as uniting the shortest distances, including journey and voyage, the presence of existing establishments and resources, a favourable port, and a long extent of railway well adapted to the purposes of internal communication.*

Deputation.

March 18, 1851.

" J. Drummond.
" J. F. Burgoyne.
" Peter Barlow.
" Richard Griffith."

(*Admiral Robinson.*) Might I be allowed to add to what Lord Monteagle has said, one single word before you proceed to the particular case of the Shannon. On recollecting the evidence that I gave on Saturday, it occurred to me that I had made a few mistakes in the dates, which are not important, except as regards myself; and I omitted one or two very important facts which came to my mind afterwards, and which I think are important. I will just say as regards dates, that I served on the Irish station in 1803-4. I was in command of a sloop of war at Cork, in 1812. I crossed the Atlantic in command of ships of war to and from North America six times; the last time was in the end of 1819. I was in Cork harbour in a steamer in 1844; and I visited Galway in the present year (1851). It is objected to Galway as a packet station (and much of this would apply equally to Galway and to the Shannon):—1st. That no seaman likes to run down upon a lee-shore in a gale of wind and thick weather—2nd. That the water breaks outside the Arran Islands at the entrance of Galway Bay in 12 fathoms. 3rd. That you may approach Galway without ascertaining the latitude of the ship. 4th. That it may blow so violently in approaching the land, that you cannot round-to to sound. 5th. That a steamer drawing 19½ feet cannot, until the contemplated pier be made, obtain sufficient depth of water to lie in shelter under Mutton Island, and that blowing hard there may be difficulty in landing the mails and passengers; and as a proof of exposure, that the dock entrances have been broken by the sea. Now, I will take these objections in order:—1st. As to the lee-shore difficulty, this may be overcome by ordinary skill and precaution. In every heavy south-west gale for perhaps twenty years, the Channel Fleet (in which I served for some time) ran down without accident in thick weather upon the lee-shore of Torbay. And Galway Bay, from its many entrances, is incalculably more easy of access. 2ndly. As to the sea breaking in 12 fathoms, or deep water, I have never seen an instance of the like (except perhaps in the Race of Portland); but if the fact be so, it is wholly unimportant beyond wetting a ship's decks. 3rdly. As to the latitude difficulty, I think it quite unreal. From Cape Race, or the great bank of Newfoundland, to the west coast of Ireland, the distance is almost wholly differences of longitude, and in running almost on a parallel the daily alteration of the latitude cannot be so great as to cause any important error, even if the dead reckoning, and not celestial observation be relied upon. But it should be remembered that the winter weather on the west coast of Ireland is a succession of short storms from the south-south-west and south, drawing gradually round to west, or west by north, with showery weather, but clear between the showers, and backing in again to south-south-west and south, with thick weather and strong gales. I speak from the experience of twenty-five years' residence in Ireland, where I have carefully watched the weather, being compelled by my pursuits to do so, and I am persuaded that it is a matter of the rarest occurrence that two days or even twenty-four hours pass without an opportunity of obtaining the latitude in the day by a single or double altitude of the sun, or in the night by a star, particularly the North Pole star, the easy use of which is known to almost every navigator, however inferior his qualifications may be. It does not appear that the individual who saw no sun for five days saw no moon or stars for five nights. 4thly. As to the inability of rounding-to to sound—I have never been in a typhoon in the Indian Ocean; but during eighteen years of sea service in every other part of the world, I cannot call to mind a single instance of such a case. Should it however arise, soundings may always be obtained in any moderate depth of water by the sounding-machine, without rounding-to. Lastly. As to the question about Mutton Island anchorage. Though susceptible of great improvement by a causeway, yet I boldly affirm that there is at this moment sufficient shelter in 25 feet at low-water within the island and the reef, and that from this anchorage the wet dock (or the Town Quay, if preferred) may be always reached in a boat. I do not of course speak of the rare and exceptional instances where a mill-pond would be obstructed. Portsmouth Harbour and Hamoaze are of this description, and yet I have seen boats not able to land or to cross over from Gosport; and I believe that there, and wherever there are dock gates, they are occasionally injured and broken by the washing of the sea.

1004. (*Chairman.*) Is there shelter at Mutton Island for a vessel drawing 19½ feet of water to land her passengers at low-water?—I consider decidedly so.

1004*. Have you ever been there in a vessel?—No; but I have seen vessels riding there.

(*Mr. Mulvany.*) I wish to take an opportunity of correcting a wrong impression that might arise out of the evidence I gave the other day, as regards the works which are necessary to be executed at Galway, and the expense of them. I proposed those which would be of a permanent character and of the most perfect description; and also, as the members of the Commission who read my paper will bear in mind, I spoke of the advantages which being so constructed they would afford as regards the protection of vessels of war at any time; but as regards the using of the roadstead for a packet station, it would not be at all necessary to go to so large an expense. From my own experience from living at Galway for some time, I cannot quite bear out Admiral Robinson's view that you can in all weathers land passengers

* This was written before the construction of the *harbour at Foynes*, the execution of the railway, or the opening of the inland water-carriage of the Shannon. Dublin, Cork, and Waterford are now connected.

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Deputation.

March 18, 1851.

in an open boat from the roadstead, without a great amount of inconvenience and annoyance. But of course you could meet that by a small steamer, such as they have in the Mersey.

1005. Could a small steamer go alongside when it was blowing hard?—I think she could under the lee of the larger packets without any great inconvenience, except in a complete gale, in which no vessel could do anything hut lie on to her anchors. I have seen ill-found merchantmen ride out a gale in that coast. I wish further to state that the staging works, which would be preliminary to the construction of the permanent works, would themselves for several years serve for the purpose of a communication with Mutton Island roadstead, and with a wooden jetty into deep water inside of Mutton Island, at the face of which the vessels could land their passengers. Any gentleman who may have heen recently at Holyhead will have seen a staging there erected of a temporary character for the purpose of carrying on the permanent works. It would he similar to that; hut I would make a little addition to that, hy planking on the seaward side of the jetty, which I would propose for such purpose to run eastward from the lighthouse, and directly into the roadstead. From the shore to Mutton Island, and from Mutton Island to the place where the vessel could lie and deliver her passengers, the necessary work could be constructed for a small sum of money, perhaps 10,000*l.* or 15,000*l.* I think it the more necessary to make this explauation, hecause I believe in the first letter I sent to Sir John Burgoyne on the subject I expressly called attention to the fact, nearly in similar words to those which were used by Admiral Robinson, that Galway was nt present very nearly fit for the reception of the packets. I certainly think that if you are to euppose them to lie there without any greater accommodation than there is at present, there would be great inconvenience in landing in rough and bad weather in open boats or in a small steamer, and it would be very undesirable; and therefore the real and important question seems to be whether a part of a perfect measure, which must ultimately be adopted for the improvement of the port, might not he made conducive to the use of the place until the perfect measure was carried out.

You do not conceive that that wooden staging eastward of Mutton Island would be a scaffolding for the ultimate pier there, because you contemplate the pier being to the south-east?—There is one great arm of the pier running to the south-east of Mutton Island, which would mask a portion of the roadstead; but what I speak of is tha internal jetty.

Would that be part of the permanent work?—I think it might he so devised as to he in the place where the permanent work would he.

1005*a*. (*Chairman.*) Now I think we are ready to hear what is to be said with respect to the Shannon.

(*Lord Monteagle.*) Witb respect to the Shannon, I shall only say a few words, referring you in preference to parliamentary documents which, if you will note, may save the trouhle of citing them, and then the gentlemen present who are practically concerned, Mr. Raudall and Mr. Long, will be able to give you more detailed information. The first point to which I will take the liberty of referring you is the description of the Shannon itself, by Mr. Griffith and his colleagues, in the last Report of the Shannon Commissioners, the 11th Report, page 6:—"The great sea estuary extending from Kilkradane and Ballpoints, assumed for particular purposes to be the western limit of the river up to Grass Island, 15 miles below Limerick, comprises a distance of 60 miles navigahle for large vessels at all times of tide, and affording several points of natural shelter. This portion required little improvement in the navigable channels except a few huoys and beacons to mark particular shoals and snuken rocks. From Grass Island to Limerick the river presents the character of an ordinary tidal navigation. The channel is, comparatively, confined and shallow, containing numerous rocky shoals, which, with the rapidity of the water, occasioned by the great fall at ebh-tide, causes some difficulty in the navigation." I would also take the liberty of referring to the evidence before the Lords' Committee of 1836, of a witness to whom I have previously referred, Mr. William Bald, a very good surveying engineer, whose trigonometrical survey of Mayo was the first attempt made in Ireland to set out a good map upon scientific principles and on a large scale. He is, I believe, now employed at Glasgow. He says, "In my former evidence, published last year, *I* have said that Mackenzie states, 'The Shannon is a river of easy access, where fleets and the largest ships may ride in safety.' Limerick contains a population of 70,000 inhabitants; and there is a water-power equal to 35,590 horses; this water-power working only 12 hours per day, would he equal to 1,424 steam-engines, each of fifty-horse power. The Shannon presents a line of navigation through the interior of Ireland to an extent of more than 180 miles, and passing through ten counties. On the Lower Shannon there are two steamers, and on the Upper Shannon six. There are also 50 trading harges of 50 tons each; they carry annually to Dublin about 50,000 tons of goods by the Shannon and the Grand Canal. The entrance to the Shannon is well defined, and eight miles wide, having Brandon Hill on the south-west—a remarkable landmark to guide and direct the mariners coming in from the ocean; it can be seen seaward in the Atlantic, at a distance of 45 miles, and consequently 65 miles seaward of the mouth of the Shannon. A new ship-dock, 16 feet deep, is now being formed at Limerick, and it is also contemplated still further to improve this magnificent river navigation." It is only necessary to add, that in looking at the case of the Shannon, you will hear in mind that the communication between Cork and Limerick hy railway has since been completed—that the communication between Limerick and Dublin is also complete and open hy railway—that the water communication for internal navigation from Limerick to the extreme point of the Upper Shannon is now complete and open, and that there are projects for the extension of that navigation farther to the north, upon which, however, I do not rely, as they are only in progress, and I wish to rely only on that which is already done. There is also, an eastern communication, a part of which is open, and a further portion is in progress towards completion, so that it may be relied upon from Limerick to Waterford.

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Deputation.
March 18, 1851.

So that Limerick stands as the most central part of the whole area of Ireland, so accessible by land and water and with which you can be called upon to deal, considering the population, the commercial intercourse, the production of wealth. We command, at Limerick, the resources of an entire circle, whereas, if driven to a mere port on the coast, our natural resources are confined within a half circle, or a smaller segment only.

1006. (*Chairman.*) I do not know whether you have seen the papers that have been sent us on behalf of Limerick?

(*Lord Monteagle.*) I have not. I do not for the present say anything about particular Shannon ports. I shall, with your permission, enter upon that question afterwards. What I have now said has reference to the general question of the Shannon navigation.

FOYNES HARBOUR.

Lord Monteagle.
March 18, 1851.

(*Lord Monteagle.*) Perhaps I may now refer you to one or two documents having an important bearing upon this part of the case, which I am desirous of bringing under your attention—always forewarning the Commissioners I am here a party locally interested as a landed proprietor, and therefore it is right that you should consider my evidence as being open to local and personal bias. It is on this account, and as admitting such bias, that I shall advisedly abstain from expressing personal opinion, and shall prefer referring you to public documents exclusively. The first occasion that the question of Foynes was brought under public observation was in a Report, not coming from the authority of a landowner, like myself, but from a high naval authority. I wish to call the attention of the naval members of the Board especially to this fact. Foynes was brought under the attention of Parliament and of the Government of the day by Captain Mudge, R.N., Surveyor to the Admiralty, who had been sent down to inspect the Lower Shannon in 1831, and who, I believe, was previously an entire stranger to the district. After speaking of Grass Island, which he thought was capable of being made a very good port, he says, "Looking at the question in all its bearings, I should be more inclined to suggest to your notice the island and vicinity of Foynes, a little below the Beeves. At present it is merely a place where the quarries of limestone are worked, and is seldom visited or resorted to. It lies on the south side of the track of vessels going up or down. I think that place affords great advantages for constructing both docks and quays, and moreover has a secure anchorage for any number of shipping. On the south-east side of Foynes would be the most eligible, and the quarries are close at hand. At present it is of no service as a roadstead, and vessels never go there but as a mere casual thing. Why I prefer Foynes is from its lying in dead water and having wide navigation to the very anchorage, and it would admit an unlimited number of vessels of all descriptions." Such is the opinion of the Admiralty Surveyor given officially after an inspection of the place, and it is given by one wholly unconnected with any local interest whatever.

1007. (*Chairman.*) There is one question which, perhaps, I ought to have asked before: whether we may consider the present deputation as a fair representation of the interests of the whole Shannon?

(*Lord Monteagle.*) Yes, I believe of the whole of the Lower Shannon. We are all agreed, and have no conflicting opinions about it.

[*The other gentlemen present representing the Shannon interests expressed their concurrence.*]

(*Lord Monteagle.*) The documentary evidence to which I next refer is a letter addressed by Colonel Burgoyne to the present Lord Stanley, then Secretary for Ireland, and to whom this question of the Shannon navigation was entirely unknown until he received that communication. It is dated the 28th of May, 1832. (My extracts are all made from accessible Parliamentary documents.) "For a great port, Limerick is too high up the river. Had it been established at Foynes Island all the principal disadvantages under which it labours would have disappeared. The internal system of communication would have commenced from thence, and few trading ports would have possessed so many advantages." The next document to which I would refer is the Report of the Shannon Commissioners, made in the year 1837, founded on the original Report made to Lord Stanley in 1832. Of that Commission Sir John Burgoyne was the head; Colonel Jones, who is now Commanding Engineer in Edinburgh, was the second. It also included Mr. Griffith, the present Chairman of the Board of Works; Mr. Cubitt, the eminent Civil Engineer; and Mr. Rhodes, brought up in the admirable Telford school of engineering—all gentlemen of great weight and authority. Their Report upon this subject was made in 1837, and it contains the following passage:—"There is in the shipping-harbour at Foynes ample depth of water, sheltered anchorage, an extensive platform in the rear of it, and it is within 1,100 yards of one of the finest limestone-quarries in the south of Ireland. This valuable quarry is situated at the western extremity of the limestone district." The next document is a Report of Captain Washington, made to the Tidal Harbour Commission—again a naval authority. It is as naval authorities that I specially ask your attention to many of these documents. "Foynes Island is nine miles above Tarbert, and twenty miles below Limerick; it is about three-quarters of a mile in extent each way, and rises to a height of two hundred feet. To the south and south-east of the island, between it and the mainland, is an excellent well-sheltered harbour of about sixty acres in extent, capable of containing many vessels in depths of from three to six fathoms water, the bottom being stiff mud, the best quality of holding-ground. The entrance to the harbour is quite clear and deep; that from the north-east is more intricate, and at low-water is only suited to small vessels. Foynes is well suited for a converging point

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Lord Monteagle.
March 18, 1851.

for the traffic of the north-west portion of Limerick, a district rapidly advancing in industry and consequent prosperity. A shipping-place for its agricultural produce is much wanting, and Foynes offers every facility for this purpose in its sheltered anchorage and ample depth of water. It is also in the immediate neighbourhood of the great high road to Limerick, and within three-quarters of a mile of one of the finest limestone-quarries in the south of Ireland." The documents which I have read all relate to a period before the construction of the present harbour. I now proceed to a Report showing the advancement of these works in 1850. It has been laid before Parliament, and forms part of the last Report of the Shannon Commissioners. They say: "The works originally proposed by us for this place were, on reconsideration and with your Lordships' approval (in which the proprietor, Lord Monteagle, coincided), changed not only in their design, but in their site. The works commenced in November, 1846, and are not yet quite complete" (this Report was, however, dated in the year 1850), "although the mason-work is in so forward a state, that we expect it will be finished within two months." (The mason-work is now finished.) "They consist of a landing-wharf and a slip for launching boats, the former 275 feet and the latter 210 feet in length. From the wharf a pier projects towards the deep channel of the river for a length of 345 feet, and 40 feet breadth at its seaward termination. One-half of this pier has been founded at a depth of 14 feet below low-water spring-tides; and the remainder has been erected on a substantial foundation of piles driven to the depth of 32 feet below low-water spring-tides, at the outer extremity adjoining the deep channel. The harbour adjoining the pier will be excavated to the depth of 10 feet below low-water spring-tides; and as the tide at springs rises to the height of 16 feet above low-water, there will be a depth at the quay and west side of the pier of 26 feet at high-water spring-tides. Foynes harbour, when complete, will consequently give secure quayage to sea-going vessels at all times of tide; and, in fact, will be the only port on the Shannon possessing that advantage, all the others, including the quays of Limerick, being dry, or nearly so, at low-water. Lord Monteagle, the proprietor, subscribed 4,250*l.* towards the construction of this work, which is the largest contribution made by any individual on the Lower Shannon."

(*Admiral Robinson.*) With reference to the comparison between Galway and Foynes, I would beg leave to observe, as to a part of Captain Randall's evidence, that I should think it impossible at Foynes Harbour to run in on a dark night when it was blowing hard, and pick up a mooring buoy to secure a large steamer. I merely say so as a seaman.

(*Mr. Randall.*) I do not think the darkness of the night would at all interfere with it, because signal lanterns are used. I want to correct some misapprehension. Some questions were put as to what the state of things would be when the wind is right in. Now, a great deal depends upon what is meant by the wind being right—it may be supposed to mean right up the river. If it means right into the harbour of Foynes, the river is only a mile wide; and there cannot be much wind felt when you have only a mile width in the river. The moment you get in you get under the lee of one of the points.

1008. Supposing the wind is blowing directly up the river?—(*Mr. Mulvany.*) Perhaps the Commissioners will be satisfied with an independent opinion upon this point, especially as my opinion rather inclines towards Galway. I can assure the Commissioners that there is never any wind at Foynes that can importantly affect the harbour. I have been there under all circumstances.

1009. Is the surrounding land high?—It is, but there is no wind to make any sea there. The whole difficulty at Foynes is the rapid tide; you need not anticipate any difficulty from wind.

[Mr. Randall.
[March 18, 1851.

(*Mr. Randall.*) Here is the entrance [*pointing it out on the chart*]. The moment you get in here, you are in still water and out of the wind. The surrounding ground is very high.

1010. In fact, the wind blows up and down the channel harder than it does from one side to the other?—Yes.

1011. How does the Shannon lie?—East and west.

1012. Has not Tarbert the advantage of being nearer the sea, and being a larger harbour?—The outlay for making a harbour at Tarbert would be very considerable.

1013. Is the roll of the Shannon very great there?—Tarbert is a good deal exposed to the eastward; the westward is perfectly sheltered.

1014. What is your opinion with regard to Limerick?—For the purposes of bringing these packets up, I do not think Limerick would be advisable, except for the purposes of repairs.

1015. Will you state what sized steamers the dock at Limerick would receive?—Mr. Long would be able to give you better information upon that point.

1016. With regard to Tarbert, have you ever known vessels unable to remain at their anchorage at Tarbert?—Frequently.

1017. Upon what occasion were they unable to remain at the anchorage at Tarbert?—The ground shoals so suddenly that they drag off their anchors.

1018. From what quarter is Tarbert most exposed?—From the south-east.

1019. Are you aware that there are a considerable number of anchors lying now in the roadstead of Tarbert?—There are.

1020. Have you any other information connected with the navigation of the Shannon?—Nothing, except as to that part of the coast generally. I should much like to satisfy the Commissioners as to the safety of the west coast of Ireland.

1021. Objections have been made as to the difficulties of approaching the west coast of Ireland in bad weather—what is your opinion upon that point?—My experience of the whole of the west coast of Ireland, from Cape Clear round, is such that I would prefer it to any other part of the coast of the United Kingdom. I have known all the ports from Dundee around by the east and south coast of England, and Saint George's Channel up to Glasgow. I have been in almost every one of the principal ports there; and if I were to take my choice to-morrow of a port either of departure or of arrival, I would say give me some one port on the

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west coast of Ireland. My observation now refers altogether to the contemplated arrangements of a packet station somewhere upon that coast, in preference to Liverpool.

1022. Have you been trading upon the west coast of Ireland?—Yes.

1023. For how long?—I think for about 10 or 12 years.

1024. From what parts of the world?—Principally from London.

1025. How did you come round from London?—Down the English Channel.

1026. And by Cape Clear?—Yes.

1027. And you think the Shannon is safer to run for than any port in England?—I do, decidedly.

1028. In making the west coast of Ireland, when you could not see the land, have you tried for soundings?—Yes; the soundings do not extend far off the west coast. You sound if you find it necessary; but you seldom seek for soundings when you can see the land.

1029. The question supposes a gale of wind, and that you cannot see the land; have you ever made the land in a gale of wind?—I have.

1030. Did you ever sound?—I did.

1031. What water did you get?—Sometimes 80 fathoms.

1032. Was it blowing very hard then?—Yes.

1033. Right in?—No; perhaps away from the west and south-west.

1034. And you were "beating" up the Shannon?—Yes. I never sound till I think that I have run my latitude, and got to the north of the Blaskets. I have wished to haul up to the eastward, and then get into the Shannon.

1035. How far do the soundings run off the Shannon?—Not more, I should think, than fifteen miles. I speak of soundings that one can depend on.

1036. Do you know anything of a rocky bank outside the Shannon?—No, I never saw any. I should have seen it if there had been any.

1037. When you sounded, how did you know what part of the coast you were upon—what indication does the sounding give you that you are near land when you come into 60 fathoms?—You find either a sandy bottom, or a shelly bottom, or whatever it may be. You mark it off upon the chart, and that gives you some indication, along with the depth of the water, and correcting your dead reckoning you cannot be far off.

1038. You never have run upon the coast in a gale of wind, coming right in from America? Not from America; but I frequently run in, in a gale of wind, upon the coast, after having been blown off. I have been frequently blown off upon the coast. I have been blown off as far as 14° west.

1039. And you have run fearlessly in?—I have run fearlessly in—generally, our gales are to the south-west, and of short duration, only a few hours. Of course that brings thick weather, but the moment the wind changes to the west and north-west it clears off, and the coast, upon that part of it, is seldom so that you cannot make it.

1040. When you ran in, in a gale of wind, you made the land before you ran into port?—Yes, I never would run for port without first making some part of the coast. I always preferred making the land about the Blaskets, or about Brandon.

1041. What depth of water would you have 15 miles to the westward of the Loop head?—I should think about 60 fathoms.

1042. Are you acquainted with the Arran Islands?—I have been in the Bay of Galway sometimes.

1043. If you had 60 fathoms water running for the Arran Islands, how far would you be off them?—I am not so well acquainted with the soundings in that part of the coast.

1044. You would be further off at the Arran Islands, than you would be at the Loop Head, with the same depth of water?—I imagine so. If you took the same parallel of longitude you would be further off. I wish to explain one feature upon this part of the coast, which I think bears strongly upon the question with respect to fogs and thick weather. The whole of the coast from the Blaskets to the entrance of the Shannon, is an entire range of land-fall coming from the west. Now this part of the coast is not in my opinion at all so subject to fog or thick weather, as a dead coast—I mean a coast that is continuous in the same point of longitude or latitude for a hundred miles in length, such as the Coast from Cape Clear to the Tusker. That I hold is more liable to take fog, and to hold fog and thick weather than a coast like this. All seamen, I believe, will admit that the nearer you approach soundings the more you become subject to fog. The moment you get into soundings, and in shallow water, the fogs are more prevalent, and the greater the risk you have. You perceive from the chart that all this part of the coast is indented. There is no flat coast, it is all bays, many of them deep bays, and if the prevalent wind is from this quarter, at every one of those bays the fog clears off and leaves the point exposed. There is another reason, namely, that the water is so deep all along the coast; and to the Blaskets the observation most particularly applies because all the Blaskets run east and west. They are pointed pieces of rock, which will not hold fog and never did hold fog, and you can run to make those rocks and almost lie alongside of them with safety. So that the difficulty of making the land here is, in my mind, almost nothing.

1045. If you come in here and had not been able to make the land, you would not run for the Shannon till you were able to make the land?—I always make it a point, whenever the weather is thick, to run into the latitude, till I get to the westward of the Blaskets, and then haul in, make my soundings and correct my distances, and then the moment this land is doubled [*pointing it out on the chart*] with the wind at south-west, you at once feel the influence of smooth water. That is another indication which I forgot to mention, that by steering in between the Blaskets and the Brandon Mountain, you are almost sure to make it.

1046. During your experience, have you found in the Shannon any practical inconvenience,

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Mr. Randall.

March 18, 1851.

and if so to what extent, arising out of fogs in the river itself?—I should say exceedingly little.

1047. With reference to making the river safely, have you during the whole of your experience known any, and if any, can you state how many accidents arising from the want of power of getting into the river?—Of course accidents would occur outside the heads. I should think those are very rare indeed, and principally by strangers not at all acquainted with the coast. A few foreign vessels have been driven upon our coast from not having sufficient knowledge of it, and being unable to get pilots.

1048. Have you any distinct record of the number in any given series of years, which you can lay before the Commissioners?—No, I have not.

1049. You do not know what proportion they bear to the accidents which have occurred in the English Channel?—I should not think more than one to 50.

1050. In proportion to the quantity of traffic?—Yes; of course, I keep that in view.

1051. What would be the proportionate per centage of accidents?—I should think not more than one in two hundred. I am merely speaking from recollection. I have no data to go upon.

1052. Does the wind at the west blow directly into the river Shannon?—West and by north.

1053. When it is blowing a gale of wind from the west or west by north, and a strong ebb is setting out of the river at high-water spring-tides, after a fresh, is there much sea at the entrance of the Shannon?—A good deal.

1054. Have you ever known of a vessel being wrecked in consequence of getting into that sea?—No, except there might perhaps be some boats.

1055. Was not there a brig anchored near the lighthouse which got lost?—There might have been, but I do not recollect it.

1056. When the tide meets the wind there is a very heavy sea running in at the entrance of the Shannon?—As it comes near the river.

1057. Do you know any instances in which ships have failed in making the Shannon recently, and have made any other port on the coast of Ireland?—No, I do not recollect any at present.

1058. Can you state whether vessels have in more than one instance this winter attempted to make the port of the Shannon and have failed, and have made the port of Galway?—I think that is very probable, from the vessel getting too far to the northward.

1059. Have not others attempted to make Galway and have failed, and have been obliged to make the Shannon?—We have had several cases of that sort. Those are things that will occur at every port.

1060. Upon this map of Foynes there are two excavations which are marked C and D, as affording places for natural docks. Will you describe what is meant by that?—Those are places which are by nature admirably formed for making dry docks.

1061. Can you state how they could be turned without great expense into dry docks?—I am not quite competent to go into the matter of expense. Mr. Long will be able to do so; but it strikes me that the place presents great natural advantages for making accommodation for docks.

1062. Supposing that the Shannon were selected as the Transatlantic Packet Station, would there be a possibility of a vessel getting inside the Shannon, and not being able to go up to land her mails?—There are several points where the mails could be landed; there is Kilrush.

1063. But that is on the wrong side of the river?—They could be landed at Tarbert.

1064. But supposing she could not run up so far as that in the night in a gale of wind, could she land her mails at Ballylongford?—Yes. But I do not see what is to prevent the vessel running up. I myself have seldom seen such a state of things that I could not run up and enter the docks at Foynes with the greatest safety.

1065. From the Beeves up to Limerick the navigation is very intricate, is it not?—It is shallow.

1066. There are rocks that are covered at different times of the tide—masses of stone?—Yes.

1067. What distance is it from the Beeves to Limerick?—About 16 miles. But the obstruction does not begin at the Beeves. The shallow water begins at Beal Castle, which is about four miles and a half from the Beeves.

1068. That is about 12 miles from Limerick?—Yes.

1069. What length of time in each tide is there during which a vessel of this large class could go up from that point to Limerick into the docks?—A vessel of that description, drawing 19½ feet, would take an hour.

1070. At what period of the tide?—At three-quarters flood.

1071. From that to three-quarters ebb she would have water enough?—Yes; it would take about an hour and a half to do it with safety, because she would not go at full speed.

1072. If she is not in the dock before the water begins to fall, she would be very disagreeably circumstanced?—She would have to go aground.

1073. Are you speaking of spring-tides?—At spring-tides she would have more time. I should say that at spring-tides we should have three-quarters of an hour spare time for docking.

1074. Would there not be a little risk in getting vessels up at any time to Limerick?—I think not. I went down the other day to tow a vessel, and I took one of the small steamers with me to Dingle Bay. We left Dingle in the evening, and after towing all night got into the Shannon, and in the morning I found no difficulty in towing her up. It is, of course, much more difficult to tow a vessel than to steam without towing.

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Mr. Randall.

March 18, 1851.

1075. What depth of water did she draw?—16 feet and a half. That is a strong proof in favour of the practicability, taking one of those mail-packets up.

1076. In case of emergency could you have put her ashore somewhere where she would not injure much?—Yes, in the mud.

1077. Could you do that with a large packet?—Yes, we do. There are two or three points where the mud is of such a consistency that it amounts almost to water.

1078. Is not there a higher rate of insurance for vessels going up to Limerick than to other ports in the west of Ireland?—I am not aware of that fact. Mr. Long has been, during the past summer, inspecting the rocks and obstructions in the part of the river to which I now refer, and an order has been made by the Harbour Commissioners to remove them.

1079. All of them?—I do not know as to all of them, but part of them; those that are most in the way of the navigation.

(*Lord Monteagle.*)—It may be right to mention, that since the former evidence was given upon this subject there has been a light established upon the Beeves; and that has, to a certain extent, completed the lighting. We have lights at the Beeves, at Tarbert, at Kilkadrane, have to be and at the Heads.

1080. (*To Capt. Randall.*) Is it your opinion that it would be possible now, without any further expense, to establish a Transatlantic Packet Station at Foynes?—I would not say without any further expense. I think that the expense of shedding, and things of that sort, would be absolutely necessary for the establishment of a station anywhere, and a hulk would provided.

1081. Would it be necessary to make a lighthouse?—Two lanterns, I should say, would be quite sufficient for a harbour-light.

1082. Would not a lighthouse be better?—I do not think it would be necessary to go to that expense.

1083. Not at the entrance of the harbour?—I imagine not, when you take into account that the channel there is only a mile or a little more than a mile wide.

1084. Supposing some port on the western coast were selected as a Transatlantic Packet Station, and you were making the land at night, would the Skelligs light be of any service to you in coming from America?—Most decidedly.

1085. What latitude do you come across in coming from America?—The latitude we should strike in the nearest point of land would be about 51·30. We should then be, perhaps, 50 miles from the Skelligs. The nearest point of land to Halifax is the Skelligs, and then the Blaskets.

1086. Coming in a straight line?—Yes.

1087. Would not you rather make Slyne Head?—No; that would be altogether out of the way.

1088. What land would you make if you were running for Galway?—If I were running for Galway, I would prefer always making either the Blaskets or the Brandon.

1089. Is not there a light upon the Arran Islands?—Yes.

1090. Would not you run for that?—Not willingly; I should prefer making the land to the westward before I ran down into the bay. Even before I run into the Shannon I prefer making the land to the westward.

1091. Would not that be going out of your way in coming from America?—No. If the wind happened to be from the northward and very clear weather, I should most likely make the Brandon.

1092. There is no light upon the Blaskets?—No; it is contemplated to have a light upon one of the Blaskets. I should think the westernmost of the Blaskets would be the best for the purpose.

1093. Are you aware that they are going to alter the lights upon the Arran Islands?—I am not aware of that.

1094. If Foynes were selected as the Transatlantic harbour, would the Ballast Board probably at once put a lighthouse upon the island, or the harbour, if it were required?—I am quite sure they would. If lights were considered necessary, it would be done in a moment in that case.

William Randall, Esq., examined.

W. Randall, Esq.

March 18, 1851.

1095. You are harbour-master of Limerick?—I am.

1096. Have you any further information to give the Commissioners beyond what you have sent in in writing?—It was wished by those who take an interest on behalf of the Shannon that I should come over here for the purpose of explaining to the Commissioners anything contained in the documents which were sent which the Commissioners may wish to make themselves more thoroughly acquainted with in detail. I am not aware that I can add anything in substance beyond the documentary evidence that we have already sent to the Commissioners. I should observe that I am only competent to give an opinion in relation to the nautical part of the question. I must confine my evidence altogether to that part of it which relates to the harbours, and to the comparative advantage which they possess over the Channel ports.

1097. Are you acquainted with all the ports?—Yes, with all the ports, both of England and Scotland.

1098. Which of the ports of the Shannon do you recommend for this purpose?—If the Shannon were to be selected for this purpose, I should, by all means, say the harbour of Foynes, not only as offering every facility for at once setting to work, but as offering the

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W. Randall, Esq.
March 18, 1851.

most direct accommodation for the landing of passengers and for the safety of the steam-packets. I have lately gone to Southampton for the purpose of seeing how far the harbour of Foynes could be likened to the docks that have been made there for the accommodation of the West India Packets. I think that facilities at the harbour of Foynes could be made with a very small outlay, quite equal to those of the Southampton docks.

1099. The channel at Foynes is very narrow?—It is narrow at the entrance, but I see no objection to that whatever. It appears to me that in making the harbour of Foynes with a steamer, there would be no difficulty in running alongside the pier without swinging; but if it was necessary to swing, I need not tell Sir James Gordon, who is so well acquainted with the harbours of Portsmouth and Devonport, that I have very frequently, many years ago, seen first-rates brought in in very narrow water and swung without much difficulty, even without the assistance of steam.

1100. What may be the width of the channel at Foynes in that narrow part?—I think it is about 600 yards.

1101. At low-water?—At low-water I think it would be about 500 yards. In saying 500 yards I mean when it is dredged. You are aware that we are about dredging that harbour.

1102. What is it at the present moment?—I do not think it is so much as that now.

1103. Is it about 360?—About that.

1104. Is there a wharf leaving 22 feet water at low-water spring-tides?—No, not at present; we think it is capable of being dredged so as to make it so. I am not speaking of the narrow place at the entrance, where it would not be necessary to bring up.

1105. In the paper you sent us you say that at Foynes there is a pier, alongside of which there is 22 feet at low-water, sheltered and smooth as in a floating dock; but that is not the case at present?—Not at present.

1106. You say it would be very easy to bring a ship alongside that wharf. Supposing it was spring-tides, and a flood-tide, at what rate ought a steamer to go to be under command in running up so narrow a channel?—I think it would be sufficient to give her steerage way, perhaps a knot and a half an hour in still water such as that. In steering in with the tide the vessel would be steering longitudinally with the wharf itself, and there would be no variation in her course. That would be an advantage, because when you have to make an angle in steering a vessel in narrow water, it is clear that it would be more difficult.

1107. The tide is running three miles an hour there?—About that.

1108. You say that she would steer going a mile and a half an hour; that would be four miles and a half an hour. Do you think it would be possible to bring one of those vessels with the tide and wind right in alongside any wharf?—In extreme cases perhaps it might not be prudent to do so, but if that was the case, I am certain that a mooring-buoy placed in the centre of the harbour with a triangle bridle would be sufficient for the purpose of bringing up a ship and letting her swing if she pleased, or even bringing her up stern foremost.

1109. You think, in a gale of wind and in a dark night (because we must consider the worst weather), it would be possible for a boat to pass a hawser on board of a vessel to stop her?—I think so, inside of Foynes harbour; the water there would be quite as smooth as it would be in the entrance of Southampton dock.

1110. You mean in a flood-tide?—In any tide. There is no sea there, it is so sheltered all round.

1111. How do you provide for this difficulty:—Here is a vessel 300 feet long, and you have only 420 feet water, crosses carrying 14 feet at low-water. Now, if you place a mooring-buoy in the centre of the channel, you only have 210 feet on each side of it, unless you bear ashore?—I would not hold that as a fatal objection at all. If you had your hawser fast to the mooring-buoy, your vessel could go either ahead or astern.

1112. We are speaking of a dark night and blowing a gale of wind?—Yes; I wish to meet the objection in its most extreme sense. I have not had much experience in steam-vessels, but I have seen a great deal of them, and I think it could be done with perfect safety, because if you once got your mooring-hawser fast, the vessel could either go ahead or astern.

1113. Would not that be the difficulty?—I think not, because a boat would be always in readiness.

1114. Is it not exceedingly hard work to snub a vessel going as fast as she would be?—I would take care that she should not go so fast; because the moment I got the vessel's head abreast of the mooring-buoy, I would back on, and the wind would assist me.

1115. At what rate does the tide run at Foynes?—Not three knots where it would be necessary to swing the vessel, that is, abreast of the pier; but in the narrowest part it is about three knots at spring-tides.

1116. Not close to the shore?—No.

(*Lord Monteagle.*) Perhaps I may be allowed to say, that there are officers at the Admiralty whose evidence upon this subject, from what I have seen, might be important to you. I have seen the "Shearwater," for instance, when she was there; she was commanded by Lieutenant Turner, and driven away from other anchorages, and she came in there for safety. Lieutenant Turner would be able to give evidence upon that subject. Also, whatever master commanded the "Madagascar," which was a large vessel, a 74, would be able to give you information as to Tarbert. I should think Beechey, who was the colleague of Woolfe, would be able to speak to that. I remember the vessel being there, and he was as perfectly conversant with the state of things at Foynes as he was at Tarbert. The "Madagascar" was there during the famine.

(*Mr. Wyndham Goold.*) Before you leave this point, may I be allowed to make an observation with reference to what has been suggested as to its being a fatal objection to a harbour, that in some particular states of the weather you cannot bring a vessel alongside. I remember

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W. Randall, Esq.
March 18, 1851.

some years ago leaving Liverpool in Her Majesty's steamer "Urgent," Captain S——— was the commander—it came on to blow after we had passed Holyhead, and when we came into Kingstown we could not go alongside that night, we were obliged to anchor there, and all the passengers were obliged to sleep on board The mails were with considerable difficulty forwarded, and the next morning we were obliged to land in a small boat. That is a case that might occur once in a hundred years. I do not think that ought to have much weight as being a fatal objection against the harbour.

(*Captain Randall.*) That might happen with any harbour in certain weather. In such a case I should prefer Foynes harbour to Kingstown; it is not encumbered with ships.

(*Mr. Wyndham Goold.*) So should I.

1117. (*To Captain Randall.*) You compared Foynes to Southampton. Is there anything like a current of that kind at Southampton?—No.

1118. Is there any current at all at Southampton?—Not where the docks are. In referring to Southampton, I merely meant as to the facilities of making Foynee equally convenient for ulterior objects, such as shipping and warehousing.

1119. You did not mean as to the facility of going into the harbour and lying alongside?—I should say that with a large vessel of that description it would be quite as safe to go into Foynes as to go into Southampton dock. I should have no hesitation, if I were in command of such a vessel, to take the vessel into Foynes. I should do it just as easily as I could into the docks at Southampton.

1120. Do they dock in the night at Southampton?—I do not know. I think I have heard that they do—it is the still water that creates the facility; there is no sea.

1121. Before you come to the place where they are going to erect the pier, is not the entrance into Foynes harbour from the river very narrow?—That is about 250 yards.

1122. Is there any cross current from the entrance?—No, the tide sets perfectly fair—the river tide setting up through the harbour divides itself most naturally.

1123. You have no occasion to cross the tide to enter the harbour?—Not the least.

1124. The river is of good width?—It is three miles wide.

1125. Are there any difficulties in bringing a railway to Foynes?—Not the slightest. I believe Mr. Long will be able to speak to that.

(*Mr. Wyndham Goold.*) I believe a line was surveyed some years ago upon that coast.

John Long, Esq., examined.

J. Long, Esq.
March 18, 1851.

1125.* What is your profession and present employment?—I am an engineer; my present occupation is as resident engineer in the Dock works at Limerick, under the Board of Works.

1126. Are you well acquainted with the Shannon?—I am with the whole of the Shannon.

1127. Do you concur generally with what has been stated by the preceding witnesses on the subject, that Foynes on the whole is the point best adapted for the purpose of establishing a transatlantic packet station in the river Shannon?—Yes; that is the opinion I have formed.

1128. Do you know whether that is the opinion of the Chamber of Commerce of Limerick?—I could not say positively whether it is the opinion of the Chamber of Commerce; but I know that the Limerick Committee who are in communication with this Commission, represent the Chamber of Commerce as well as the Harbour Board and the Corporation.

1129. What probability is there of a railway being established at Foynes?—I believe there is no doubt that if it were recommended that Foynes should be the packet station, there could be no difficulty in establishing a railway.

(*Mr. Wyndham Goold.*) Perhaps I may state that I am a considerable holder in the Great Southern and Western Railway Company. I have had communication with the Directors, and I think, from the conversations I have had with them, there is very little doubt that if once Foynes were selected as the transatlantic port, they would make a branch there.

1130. Have they an Act of Parliament for the purpose?—No.

1131. (*To Mr. Long.*) Are you acquainted with the country between Limerick and Foynes?—Yes.

1132. Is it a level country presenting no engineering difficulties?—There are no engineering difficulties; it is a general level. I have no doubt that the line there would be generally horizontal.

1133. There would be no difficulty in reaching the present station at Limerick?—No; it is well situated for that, and it is well situated for the dock, because in reaching the station you pass the dock we are now building.

1134. Have you any information to give to the Commissioners beyond what has been sent to us in writing, or what has been communicated by other witnesses who have been examined?—I do not know anything that I can add. Last summer I was directed to examine the river with respect to the rocks that have been mentioned. Within the last few days I have been along the whole line of the upper Shannon into the mining districts. Any information which I have arising from those circumstances, I shall be happy to give.

1135. Can you give us any information as to the probable price of coals at Foynes, of a quality suitable for the transatlantic packets?—I found last Wednesday, when I was at those mines, that they were selling coal at the pit's mouth for 4*s.*; they were working them under very disadvantageous circumstances. About 6*s.* more would bring the coal to Limerick.

1136. What mines are those?—The Arigna mines.

1137. Are those mines in which preparation is made for delivering any very large quantities?—No; they are working in a very rude way.

1138. Would it be possible to deliver large quantities of coal from those mines?—I do not

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J. Long, Esq.

March 18, 1851.

know. I can give no opinion as to quantity; but there is great facility for working the coal, and for transferring it to Limerick.

1139. Can you state whether it is of a quality suitable for the transatlantic packet service?—I do not know whether it is of a quality suitable for that service. I know it is good house coal, and I know it is good coking coal. I have tried it.

1140. It is a very bituminous coal?—It is a very bituminous coal.

1141. Is there water-carriage near Arigna?—Yes; there is water-carriage all the way.

1142. Is there any part of the evidence which has been given by the harbour-master with regard to the port of Foynes, which you do not agree in, or to which you would wish to make any addition?—None; except it appears to me that the dangers of the navigation from Foynes to Limerick have been exaggerated. I carefully examined all that part of the river with a view to clearing away some of those rocks. I do not conceive that it requires so large an expenditure as seems to be thought, to make a perfect navigation of that part of the river; they are very partial rocks, they are only lumps here and there; there is a good deep channel all the way through, and those rocks present themselves here and there.

1143. How far do you propose to remove them?—So far that they shall not form any obstructions.

1144. Are they rocks *in situ*?—Not all of them; several of them are a natural stratum of clay and gravel, easily dredgeable.

1145. Is the order already given for clearing them away?—Not to the full extent; there is an annual grant made to clear them gradually.

1146. In the present state of the river, do you believe that it would be safe for a steamer to come up for the purposes of repair from Foynes to Limerick?—I think with a careful navigator, knowing the river, there would be no difficulty.

1147. Mr. Randall was asked about a lighthouse; he said lanterns would do. Do you agree with him that lanterns would do just as well as a lighthouse?—I am not a naval authority for that. I have no doubt a lighthouse would be better; but Mr. Randall is better capable of giving an opinion as to whether lanterns would be sufficient or not.

1148. Are you acquainted with any other port on the western coast of Ireland?—I have some knowledge of Galway.

1149. You were present the other day when evidence was given with respect to the port of Galway?—I was.

1150. Do you agree in the statements that were then made as to what would be necessary for the improvement of Galway, and as to the expense for which it could be done?—Not exactly. My idea is, that when we look at Galway as a place without a harbour (for I think it is now without a harbour), when people talk of tens of thousands for the purpose of making a harbour for a packet station, they are mistaken. When I consider the works that would be necessary to make it useful for packet purposes, I think it is hundreds of thousands, and not tens of thousands, that they ought to be speaking of. My opinion is, that from the great exposure of that harbour, for all practical purposes it is no harbour, or nearly so.

1151. But the addition of a pier such as has been suggested would make a harbour of it?—No doubt, but it should be a very strong and costly one in so exposed a position; and even after a large outlay the extent of anchorage would be very limited, and most probably quite insufficient for this object.

1152. Have you made calculations of the expense which would be required?—I have not; I only speak of it generally.

(*Mr. Mulvany.*) Upon that subject I wish to observe that the roadstead has been used as a harbour for centuries, and in all the winters in which I have visited it I have found vessels at anchor, and I have visited it repeatedly since the year 1830. The vessels use the roadstead as a harbour in which they ride out the gales of the coast, and then they get to the quays or into the dock for the purpose of discharging their cargoes, as they do at Limerick.

(*Mr. Long.*) I believe the dock at Galway is unavailable for a purpose of this nature—that there is not sufficient water in it, or in the approach to it.

(*Mr. O'Flaherty.*) It appears to me that the impression upon the mind of some of the Commissioners is, that Mutton Island is not a favourable point for vessels to lie at anchor. I would therefore request the Commissioners to allow me to produce a nautical witness upon this point, who has himself, in his own vessel, lain at anchor there for some time, and which I hope will satisfy your minds, if you have a doubt upon the question. Perhaps, as this has arisen in Mr. Long's evidence, who, though unquestionably a very able engineer, does not appear to me to be competent evidence as to the fact of Galway being either a good or a bad harbour, I may be allowed to ask you to examine the witness I have mentioned, if you wish to satisfy yourselves further upon it. I am myself perfectly satisfied that the fact is, as Mr. Mulvany has stated, that vessels have lain there at anchor all through the winter season; but it is to satisfy your minds upon the subject that I would offer a witness.

1153. (*To Mr. O'Flaherty.*) You reside in Galway?—Yes.

1154. Would a large man-of-war steamer, drawing 19½ feet water, now anchor under Mutton Island?—I am sure she would.

1155. Have you ever known a man-of-war vessel, lying in anchorage at Galway, obliged to let go a second anchor and keep her paddles moving?—Yes; I heard, upon one occasion, of a vessel keeping her paddles moving in order to keep the pressure off her cable.

1156. Did not that show that there must have been a very heavy sea then?—No doubt about it.

(*Admiral Robinson.*) Mr. O'Flaherty wants to show, by the evidence of a person who was himself in command of a ship in Galway harbour, that he has lain there himself well sheltered in 15 feet water, and that he had access to the shore at all times without difficulty.

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(*Chairman.*) The matter is of less importance, because, as we understand the Galway case, it is of this nature, that it is not fit now for a transatlantic packet station, but that with certain alterations which they are prepared to carry out, it would be perfectly fit for the purpose; so that I do not see any necessity for going into that. We have an immense mass of evidence, and it is undesirable to have the case overloaded with points which do not appear very material.

1157. (*To Mr. Long.*) Do you decidedly prefer Foynes in comparison with Tarbert?—I do.

1158. You think that Tarbert is objectionable?—I do; it is not at all so well sheltered as Foynes.

1159. And it could not easily be made so?—No, I do not think it could without a large expenditure be made equal to Foynes; it could be made larger; Foynes is in some degree limited, but it is very well sheltered.

1160. What would it require to make Tarbert a good harbour?—It would require to have a pier run out, but the difficulty of running out a pier from the island was mentioned by Mr. Mulvany very correctly. Then there would be a great danger of silting up from the current setting in upon the harbour with the downward stream; I believe that is the general opinion. There was one circumstance mentioned by Mr. Mulvany which I wish to notice, with respect to fogs. He stated that fogs were not at all prevalent on the west coast, but that his impression was, that up the Shannon fogs were more prevalent than they were on the coast. Now I believe the fact is, that fogs are not at all prevalent on the Shannon more than upon the coast. I know, as regards two years' residence at Limerick, that I can remember but one fog during that period at Limerick. I made particular inquiry upon the subject from the masters of steamers that ply up and down the river daily, and my impression is, that one or two days in the year, or perhaps not even so much, would be a fair average as regards fogs in that part of the river; but I know the fact myself, for two years, that the amount of fog is scarcely worth calculating.

1161. Have you any further information that would be of assistance to the Commission, bearing either upon the general question or the particular questions?—No; except that I may mention that the Committee in Limerick seemed to think that the circumstance of there being branching lines of different railways meeting at Limerick is an important element in the case.

(*Lord Monteagle.*) Perhaps I might be allowed to put in the gradients of the line, as a question was put as to the facility of making a railway from Limerick to Foynes or to Tarbert. On that subject I take the liberty of referring to the Second Report of the Railway Commissioners for Ireland, which will give a very authoritative answer to that question. From the geological structure of Ireland you have a facility almost universally of making railways at a very small cost and with very little labour, in the limestone districts of Ireland. The flat limestone in Ireland is most peculiarly advantageous for railway construction. It is entirely flat limestone from Limerick to Foynes. At Foynes you get into the coal measures, and you have to encounter very considerable difficulties. But as far as Foynes is concerned, the gradients are as follows, which I have taken from the official report. The first distance is a distance of 1 mile and 40 chains, at 16 feet per mile, or the proportion of 1 in 330; that is from the station at Limerick. The next distance is one mile, which is entirely horizontal. The next is the mile which has a gradient of 7 feet in a mile, or 1 in 754. The next is 2 miles at 6 feet in a mile, or 1 in 880. The next is 3 miles 40 chains, which is wholly horizontal. So that if you combine this evidence with respect to the railway with the evidence already given as to the navigation at Foynes, the result is that you have river navigation for that portion for which river navigation is the best, and you have the advantage of railway communication where railway communication is the best and cheapest. So that you take the best out of the two elements, earth and water. You have the best land communication to Foynes, and you have the best river navigation from Foynes to the Heads.

1162. But a railway may go through a very difficult country though it may be level. Is that the case there?—No. There are two rivers, the Deel and the Mague, which will require to be passed by swivel-bridges. But with the experience which the Board of Works have now acquired, and, above all, after the experiments which have been lately made by Mr. Gibbons, I believe such bridges would present no obstacle whatever. With that exception, there is no difficulty of any kind in respect to this line of railway.

1163. Nor any difficulty in passing roads on a level?—None at all. There is an admirable road, which you keep clear of. But the whole is matter of survey, because an application was intended to have been made to Parliament for a bill for the purpose. Actual surveys and sections were made, which are available in case they should be desired.

1164. Would it be expensive land to get?—No. There would be no houses—nothing of residential damage. At the time of the distress, when the Government engineers suggested that the work should be made by the counties, by the proprietors, of whom I was one, a great number of the proprietors then volunteered to give the land for nothing.

1165. Then the line of railway under consideration would be a cheap line?—I think I have heard that the estimate for a single line of rails is not more than £7,000 a mile.

1166. Exclusive of the land?—Yes. I think that was the calculation that Sir John Macneil made.

(*Captain Randall.*) I have stated the price of the local coal, but I can state also the price of sea-coal. The best coal for steam purposes is, perhaps, the Lydni coal, in South Wales. The freight of those coals is on the average 7*s*, and they could, in my opinion, be put on board a bulk or into the warehouse there, at 15*s*. a ton.

1167. What would the difference be between your port and Galway in the price of that coal?—I think it would be less to our port, for this reason, that we are a large exporting port.

1168. You bring your coals back as ballast?—Yes, very largely.

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J. Long, Esq.

March 18, 1851.

1169. Have you known Welsh coal sold in the Shannon for that price?—Frequently.

1170. In any quantity?—In cargoes. I am sure a contractor could be found to supply coal at that rate to any amount.

1171. (*To Mr. Long.*) You said that there would be no difficulty in getting a steamer up to Limerick. Would it be possible, in the present state of the foundries there, to make the necessary repairs to a large steamer at Limerick?—I should not say that it would at this moment, but there is a large forging establishment forming there by Messrs. Russell, and they will very soon put up all the apparatus necessary for that purpose.

1172. Have you heard that declaration from Messrs. Russell?—Yes.

1173. Have you known steam-engines made at Limerick?—I do not know it myself, but I believe some have been made. Messrs. Russell have largely improved their establishment of late, and they are men of great speculation and enterprise.

[*The Deputation and Witnesses withdrew.*]

[Adjourned.]

FRIDAY, 21st March, 1851.

The Right Hon. the Earl GRANVILLE in the Chair.

Viscount Bernard, M.P.

March 21, 1851.

Viscount Bernard, M.P., examined.

1174. You are aware of the general objects of our inquiry. We shall be much obliged to you if you can give us any information upon the questions referred to us?—The only information I can give is as to the part of the country with which I am best acquainted. The question of course depends very much upon naval matters, as to which naval men can speak best. But the harbours that I was chiefly anxious to speak about, from my connexion with that part of the country, are Crookhaven and Long Island Channel, and Dunmanus Bay. With regard to Dunmanus Bay, the evidence rests at present upon the supposition that a very favourable report had been made upon it by the late Captain Wolfe. Long Island Channel unquestionably is a very good harbour, and is only 7 miles out of the direct route for America. The great importance of these harbours and of other harbours south-west of Cork arises from this, that they are the first land that any vessel makes coming from America. At present they are building a new lighthouse upon the Fastnet rock, 4 miles out in the sea, in place of the old Cape Clear light. That is the first lighthouse which any ship making the coast of Ireland must make, and just within that lie Long Island Channel and Crookhaven; both those harbours would require very little outlay. Then on the northern side of the promontory is the harbour of Dunbeacon, which Captain Wolfe told me was, in his opinion, one of the best he had found. Then there is also Cork, which is well-known to every one. The great advantage of that as a transatlantic packet station would be probably as a port of call, because, if Liverpool or Holyhead were selected, it might be very important to have a port of call there. I believe the distance between Cape Clear or the Fastnet Rock and Liverpool is about 24 hours for the best packets. Now, if Holyhead were chosen, I suppose it would be about 18 hours from Holyhead to Cape Clear. The passage across the Channel from Holyhead to Kingstown is at present about 4¼ hours. The mail trains go to Cork in 7 hours, and might easily do it in 5 or 6. Then from Cork to Crookhaven is about 60 miles, for 20 miles of which there is a railway, namely, to Bandon—and Dunmanus Bay, if that were selected, is still nearer. But probably, even with the present means of communication, you might get news quicker by a vessel calling either at Cork or Crookhaven, or Long Island Channel, or Dunbeacon Harbour, instead of bringing the mails by sea from Holyhead or Liverpool. In fact, the other day the "Cambria" might have taken out the Queen's speech if it had only been delayed a few hours. It appears, therefore, highly probable that a vessel leaving Liverpool would be able to receive later news by calling at one of these points as it passed Cape Clear, and I understand it is only 7 miles out of the direct route to America. I am living within 7 miles of the coast, near Bandon, and from that part of the shore I see the large American steamers passing within sight of land.

1175. Out of the distance of 60 miles from Cork to Crookhaven, there are at present only 20 miles of railway?—There are only 20 miles of railway already made; but the country is very favourable for the rest of the line; it is perfectly flat.

1176. For what distance west of Cork has any line of railway been enacted by Parliament?—Only as far as Bandon; half of that is open, and the rest will be open in July. Then from Bantry to the head of Dunmanus Bay it is perfectly flat.

1177. Is any railway in contemplation to the west of Bandon?—No; it has often been talked of, but there is a difficulty in providing funds.

1178. Do you know anything of Mr M'All's project with reference to Dunbeacon in Dunmanus Bay, connecting it with a line of railway to Wexford, and then taking up the steamer again?—Dunbeacon is a very good harbour; it is about 40 miles from Bandon.

1179. Did not Captain Wolfe mention Dunbeacon?—He had a very favourable opinion of it. Although there is no railway at present to this part of the coast, there was one in contemplation; but the Bill was abandoned at the time of the railway panic, when the sum required to be lodged was raised to 10 per cent. There have been other plans; but nothing has been permanently decided.

1180. Would not that be a very serious impediment and inconvenience to passengers, in consequence of the change of conveyance it would occasion?—Possibly it might; but though

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Viscount Bernard, M.P.

March 21, 1851.

there is no railway at present, still if the advantages of the harbour were brought under notice of the public in the Commissioners' Report, parties would probably be induced to make one. Another very important subject is, the lighthouses on the coast. In that part of the country we have been for years trying to pursuade the Ballast Board in Dublin to erect a lighthouse. Now they have agreed to do it; they have erected a lighthouse on the Fastnet Rock, and they have lowered the Kinsale light so that vessels will pass with safety much nearer the shore.

1181. Is the Fastnet Rock after or before Cape Clear?—The Fastnet Rock is the place they make first; it is about 4 miles to the west of Cape Clear; it is a single rock 4 miles out at sea. There is a very important lighthouse which Captain Wolfe recommended, which is Gally Head, the headland between Cape Clear and the Old Head of Kinsale. After great exertions being made for it, the Ballast Board in Dublin have granted it. Then an objection was raised by the Trinity House, who have a veto, on the ground that it would be a matter of local advantage. Now it is no local advantage, except to a few fishing-boats. There are constant wrecks upon that coast from there not being lights.

1182. In what way do you consider that it would be an advantage to Ireland to have a port of call for the transatlantic packets on that part of the coast?—They would get their letters carried out sooner, and get earlier news. It would also bring these harbours into notice. Crookhaven is a place where a great many vessels come in, especially in easterly winds.

1183. Is not Crookhaven very much used as a port of refuge?—Very much, indeed.

1184. Are you acquainted with any other harbours on the western coast?—Not at all, except Cork. I know Cork well.

1185. Are you prepared to state why these harbours would be, in your opinion, more advantageous than Galway or the Shannon?—On the ground that the Fastnet Rock and Cape Clear is the first land which a sailing vessel would make in coming from America. The want of railway communication at present might be a serious objection; at the same time, that may ultimately be remedied.

1186. Would there be any means of repairing steamers at any of these harbours?—At Cork there would; but not at present in any of the other places.

1187. The coal for the steamers would be brought by sea?—Yes; and it is tolerably cheap there. They charge 7*s.* a ton at the pit's mouth at Newport, and the freight is about 4*s.* 6*d.* to 5*s.* I am speaking of Kinsale. The freight is probably cheaper in the more western ports, where they get a return cargo of corn or anything else.

1188. Is there any other point upon which you wish to give evidence?—No; I only wished to bring the harbours I have alluded to under the notice of the Commissioners, leaving the practical part of the question to be better dealt with by naval men. We have not the charts. I think that no port west of Cork, in the county of Cork, has been reported upon.

1189. At present you receive your letters at Cork by the night mail in 32 hours from London?—Yes; the quickest communication between Cork and London is by the express at 5 o'clock; but they do not send letters by that train. I think that great improvement might take place in the Post-office arrangements in Ireland.

1190. How long does the express train take from London to Cork?—24 hours exactly, leaving London at 5 o'clock. A great deal of time might be saved if the vessels went quicker. The express boats are not allowed to go quicker than 4½ hours; they could often do it in 3½ hours.

1191. But in order to keep up regularity in the delivery of the letters, they must allow a margin, and they could not well have a less margin than by allowing 5 hours?—No; they get to Dublin at 6 in the morning, and the train does not go till 10. They could attain any speed upon the Southern Railway, which is an excellent railway; but they stop a long time at the stations in order not to be too soon. I went with the Directors when they went to see the line, and we went at the rate of 60 miles an hour. Of course that would not do for letters; but still there is a great difference between that and the present rate of 20 miles an hour.

[Adjourned to Wednesday next at 12 o'clock.]

WEDNESDAY, 26th March, 1851.

The Right Honourable the Earl GRANVILLE in the Chair.

Thomas Littledale, Esq., and *Thomas Bold, Esq.*, examined.

T. Littledale, Esq. and *T. Bold, Esq.*

March 26, 1851.

1192. (*To Mr. Littledale.*) You are Chairman of the Liverpool Dock Company?—I am.

1193. (*To Mr. Bold.*) Are you also connected with the Docks?—I am a member of the Committee of Management.

1194. (*Chairman.*) It was mentioned to me by Mr. Cardwell a few days ago, that there had been some surprise felt by some parties of the authorities at Liverpool, at no communication having been made to them upon the subject of our inquiry as to the establishment of a Transatlantic Packet Station. The fact, however, is, that one of our earliest communications was to the Chamber of Commerce at Liverpool, asking them whether they had any communication to make to us upon this subject; and we have received a communication from the Chamber of Commerce upon the subject. We are now ready to hear any information that you can give us.

(*Mr. Littledale.*) As far as regards the extent of the Dock space, I think the Commissioners have already before them a plan of the Docks, from which they will see that we have recently constructed, solely for the purpose of the large first-class American steam-packets, a dock

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T. Littledale, Esq. and *T. Bold, Esq.*

March 26, 1851.

of fifteen acres, which will be open shortly; and in connexion with that a graving-dock with 80-feet gates, so as to be ahle to take in those large steamers, and to have them repaired close to the dock in which they generally lie. And also at the junction of that dock there are six other graving-docks, two of 70 feet and two of 60, which are amply sufficient for Cunard's line of hoats. They now dock in one of the graving-docks. We hoped that having constructed this dock solely for the purpose of the American steam trade, Liverpool might still continue to he the point of departure for these packets.—(*Mr. Bold.*) A plan of our docks accompanied the memorial which we sent. We happened to he in London at this tima on other business connected with the Dock Estate, and therefore, being on the spot, we merely tendered ourselves to make any explanations, or to answer any questions that you would put to us with regard to the facilities which the port of Liverpool affords to vessels of that class and character. Beyond that, I do not presume that we have much to say further than this, that if you should wish for any information as to the depths of water over the bar, or the tides, or any question of that sort; orif you should wish to have a detail of the losses that have occurred by steamers, or any information of that kind,—the Marine Surveyor, or auy officer of the Dock Estate, shall at any moment come up to attend the Board.

1195. Can you give the Commissioners any idea of the extent to which those graving-docks are used, either by Cunard's packets or Collins's line of packets?—(*Mr. Littledale.*) Collins's line have used one dock exclusively for themselves—the Huskisson Graving-dock, as we term it. Indeed, that has heen the dock in which they lie when they are at Liverpool; for the large dock, the Fifteen-acres Dock, will be ready shortly.

1196. Do they perform repairs there?—Yes.

1197. Are not Cunard's packets now sent to the Clyde for their great repairs?—(*Mr. Bold.*) Yes, perhaps for heavy repairs; but if they get ashore, or touch the ground, or anything of that kind, and they are obliged to undergo an Admiralty survey, they go into our docks. But it has not been the practice to put their boats to any heavy repairs; they have always sold them before they arrived at that age, and built a larger class of boats. I do not think there is any instance of any of their boats undergoing any heavy repairs.

1198. Is there any instance of their going to Glasgow for repairs?—I could not answer that question positively. If they go to Glasgow, it may arise from their always heing built there.

1199 Have you any observations to make to the Commissioners upon the general question with reference to the advantage to the empire at large of the Transatlantic Packet Station being at Liverpool?—In a commercial point of view, Liverpool is very central, close to the manufacturing districts, and with every facility in the way of railway communication in both directions, hoth towards Scotland and towards the south of England—and again to all parts of the empire to the east; and on these grounds we think that, as far as situation goes, we can offer every facility that any other port in the kingdom can. With regard to our local interest in the question as Dock trustees, it must be horne in mind that the Liverpool Dock Estate is not a Company. We have only power under the Act of Parliament to raise sufficient in rates to pay the interest upon our bonded debt, and if it exceeds that, we are hound to reduce the rates accordingly, so that there is no beneficial interest in the Dock Estate. Whenever we go to Parhament, we are ohliged to take powers to horrow money for the specific work.

1200. Are there any docks at Liverpool availahls for these large American packets at neap-tides; can they go in and out at neap-tides?—No, they cannot.

1201. Do they get occasionally what they call "neaped?"—No, they invariably go out before into the stream.

1202. What water shall you have at spring-tides over the sill of those new docks which you are now making?—Between 17 and 18 feet at neap-tides, and 25 at spring-tides.

1203. You would not be able to dock one of these vessels at neap-tides?—No, they generally draw about 21 feet. I am speaking of Collins's line.

1204. Do they draw more than Cunard's line?—Yes.—(*Mr. Littledale.*) They are very much larger vessels.

1205. The Atlantic steamers now leave Liverpool according to the state of the tide, do not they?—(*Mr. Bold*). Yes, they generally leave as early in the day as they possibly can after the arrival of the mail.

1206. What amount of variation is there between the hours of departure?—Ahout from eight o'clock, or rather from nine in the morning, till one in the afternoon.

1207. The mails are now taken down from the town in a small steamer, are not they?—Yes, alongside. The vessels generally go out into the river hefore they go to sea, and then they take a sweep round, and the mail is taken on board the last thing, in a small tender that they have for the purpose.—(*Mr. Littledale.*) There is a post-office now erected on the landing-station, which is open till the last moment that the mail starts.

1208. That is put on board the small steamer?—Yes.

1290. Have you ever heard any question mooted on the subject of having the letters sorted on board the steamer during the Transatlantic voyage?—(*Mr. Bold.*) I have heard it from the captains—I am very intimate with many of them. I have often heard them say that they thought there would be no difficulty about it—that such an arrangement might he made on board.

1210. Do you think there would he any ohjection on the part of the merchants of Liverpool to such an arrangement?—I think quite otherwise, hecause their great anxiety always is to get the letters as early as possible on their arrival. It generally takes about four hours after the arrival of the steamer hefore the delivery is made; whereas, if the delivery were made immediately on the arrival, it would save their time, and frequently save a post.

1211. Do you think that a more frequent postal communication with America is desired by the commercial community?—(*Mr. Littledale.*) It is now three times a fortnight, commencing

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T. Littledale, Esq. and *T. Bold, Esq.*
March 26, 1851.

next Saturday. The Cunard line goes every Saturday, and the American line goes on alternate Wednesdays.

1212. Do you think any advantage would arise from having additional postal communication beyond that?—I should think not, so far as regards my own opinion.—(*Mr. Bold.*) I think the general complaint is that we are obliged to write too often—that the communications are almost too frequent.

1213. You reside at Liverpool?—Yes.

1214. Do the people of Liverpool ever use the Transatlantic Packets that go from Southampton?—I only recollect one instance, which was the son of Mr. William Brown, the member for the county, and his family; they embarked in one of them, and she put back; they came to Liverpool immediately, and went by the next Cunard packet. I know young Mr. Brown very intimately, and he said that he would never go in another of them. That is the only instance that I know of any parties going from Liverpool by those packets.

1215. Do you apprehend that in general a man of business at Liverpool would wait for the Cunard packet, rather than take the next departure from Southampton, if it happened to be earlier?—I consider so.

1216. Do you think that starting from the port itself is regarded as of considerable importance?—Very great.—(*Mr. Littledale.*) Supposing the Southampton packet to sail two days before, the probability is that the Cunard packet would pick her up in the way.

1217. Do the Americans who come over here generally require to visit Liverpool during their stay in England?—Generally they do. Liverpool being so much connected with America, men of business from America feel a very great interest in it.

1218. Do you think that gentlemen in Liverpool going to America would prefer going across to Galway, supposing they could save ten or twelve hours by doing so, instead of embarking at Liverpool?—I should say that a saving of twelve hours would not at all compensate for the additional trouble and inconvenience.

1219. Do the emigrants ever go out in steam-packets?—No. It is too expensive.

1220. Do many Irish emigrants come to Liverpool to embark?—An immense number.

1221. Have you observed that they bring a great number of things with them of various kinds?—They bring very large boxes. They bring their furniture with them.

1222. Generally the poorer sort of emigrants bring something with them?—Invariably.

1223. And those are Irish?—Yes, Irish

1224. They come to Liverpool in vessels from various ports of Ireland?—(*Mr. Littledale.*) Yes at a very trifling rate; a shilling a-piece.

1225. From what part of Ireland do they come at that rate?—Chiefly from the south and south-east coast.

1226. What would be the freight to bring them to Liverpool from the south-western coast?—That would involve a larger vessel, I should think. On the west coast of Ireland you get to the Atlantic, and it would require large vessels. It would be more expensive.

1227. Do those that come from the western coast of Ireland come by railway across the country and then across the channel by vessel?—(*Mr. Bold.*) They work their way across the country; they embark at Cork.

1228. Do they bring their furniture or whatever they have across the country with them?—No doubt. It is evident from the appearance of the boxes. They are old boxes—patched up things—articles that they have had for many years.—(*Mr. Littledale.*) 167,000 emigrants embarked last January from Liverpool.

1229. Is there a large amount of goods sent from Belfast to Liverpool, to be transhipped to America?—There is a very large trade to Belfast. The steamers now call at Whitehaven on their way.

1230. Do you know what freight they pay for goods from Belfast by one of those steamers?—No, I do not.

[*The Witnesses withdrew.*]

Rowland Hill, Esq., further examined.

Rowland Hill, Esq
March 26, 1851.

1231. Have you ever considered the subject of sorting the transatlantic mails, either wholly or in part on the voyage?—This subject was considered in 1847, in consequence of many complaints being made of the late delivery of the American correspondence (particularly that portion for Ireland, and the north of England) after the arrival of the packets at Liverpool. It was found that the limited space of the Liverpool Post-office prevented a remedy being applied by the addition of a greater number of clerks, stampers, &c., and it appeared that the only way to obviate the inconvenience complained of would be to have the newspapers sorted on board the packets by two clerks; bags being made up for London, Dublin, Edinburgh, Glasgow, Liverpool, Manchester, and all the larger towns. The average number of newspapers from America to be sorted at Liverpool was then about 18,000 each arrival when packets ran fortnightly, and 28,000 each arrival when packets ran monthly. The average number of newspapers sent to America from Liverpool was then about 32,000 when the packets sailed fortnightly, and 64,000 when the packets sailed monthly. Letters were to be excluded from the arrangement, strong objections being entertained to allowing this part of the duty to be performed on board the packets. The space required on board the packets for the duty of sorting was estimated to be twelve superficial yards of floor, that is, four yards by three yards, in addition to stowage room for the bags. A proposal was made to the Treasury, that the Admiralty should be consulted as to the cost and practicability of carrying out the

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Rowland Hill, Esq.

March 26, 1851.

plan of sorting on board the packets, it being at the same time suggested that the services of the Admiralty Agent might be dispensed with, to effect a saving towards the expense to be incurred. The reply from the Admiralty stated that, after communicating with Mr. Cunard, it appeared that the space required could not be afforded at a less expense than 20,000*l.* a-year. And under these circumstances the idea was abandoned. As but little time would have been saved by the contemplated arrangement, an expenditure at all approaching the estimate would of course be altogether unjustifiable; and even if the arrangement could be safely extended to letters (and to such an extension I apprehend the merchants would strongly object), it is very questionable whether the expense could be brought within such limits as to justify its being incurred.

1232. Have any other considerations occurred to you since you gave evidence on the subject of the establishment of a packet station in Ireland?—I have still further considered the question of more frequent dispatches, and the result at which I have arrived is confirmatory of the opinion which I expressed when last examined, viz., that comparatively little advantage would result from increasing the frequency of dispatch. There are now 74 packets each way in the course of the year, namely, 43 British, and 31 United States packets, giving an average interval between one dispatch and another of only 4·9 days. It is understood that the United States will shortly have as many packets as we have; if so, the number will be 86, and the average interval will be only 4·2 days.

1233. Are the intervals pretty equally divided, so that it comes nearly to a regular average?—The British packets start at intervals of a week in the summer, and a fortnight in winter. The United States packets are interposed in such a manner as to cause some irregularity; but this does not materially affect the question. Now, suppose the number of British packets to be doubled, which would be a great increase, the total then would be 129, and the average interval would be reduced from 4·2 days to 2·8 days. The interval would therefore be shortened by 1·4 in respect to one-half of the letters, equal to an average saving of seven-tenths of a day, or about seventeen hours on the whole correspondence. Now, the means which have already been under the consideration of the Board for saving time in the distribution of letters within the limits of the United Kingdon by establishing a Transatlantic Packet Station at Galway, or some other port on the west of Ireland, would effect a saving fully as great, and expensive as those means would probably be, they would, I think, cost less than doubling the number of British packets. Indeed, the arrangement which I proposed as regards Holyhead, and which would cost scarcely anything, would effect a saving in time nearly as important.

1234. Would not that only affect the Irish letters?—No, it would affect all; we should save on the average of the whole correspondence.

1235. How would the landing the mails at Galway make any saving as regards London letters independently of the shortness of the transit?—It is by shortening the transit, and by substituting railway for packet conveyance, that the saving arises. I was comparing the advantage that would result from an increase in the number of packets with the advantage which would result from other arrangements, the number of packets remaining as now.

1236. You assume that by dispatching the mails from Galway you can save a day or half a day, and you think that would be an equal saving to what would be produced by doubling the number of Cunard's packets from Liverpool?—Yes; if you double the number of Cunard's packets, and retain Liverpool as the port of departure, you save on the average seventeen hours in all the correspondence; the cost of doubling the number of Cunard's packets would of course be very great indeed. If you let the number of packets remain as it now is, but transfer them to Galway, and employ when necessary express means of conveyance, you would effect quite as large a saving of time. If you make the comparison with Holyhead, instead of Liverpool, of course the saving by going to Galway is not so great. The assumption upon which I have proceeded is, that the American Government makes its number of packets equal to our present number, and that we increase our packets two-fold.

1237. Of course you are aware that there has been of late years a great increase in the intercourse between North America and Great Britain?—Undoubtedly.

1238. Have you every reason to believe that that will increase?—I see no reason to think that it will not.

1239. And that you would probably require extended means for your postal arrangements between the two countries hereafter, as the business increases, and communication by correspondence increases?—More frequent communication is likely to arise for the sake of conveying passengers and goods, and the post office would naturally avail itself of the more frequent opportunities thus offered of dispatching mails. It is obvious, that if the number of packets should increase spontaneously, in consequence of an augmentation in the number of passengers, and the amount of goods to be conveyed, the Post-office would be able to use those packets for the conveyance of letters at a very trifling additional charge.

1240. You would wish the increase to come from the necessites of the steam-packet owners for their passenger and goods-traffic?—That is what we should desire unquestionably; and seeing that the two Governments have already provided for the transmission of letters about every fourth day on the average throughout the year, there is no pressing necessity for the increase of postal communication at the present time. As I have dwelt chiefly on the saving of time which would result from making Galway or some other western port the place of departure (an arrangement which, however, I do not recommend), I must repeat that the saving which would result from merely making the packets call at Holyhead on their way to Liverpool would be nearly as great as the saving that would result from the assumed increase in the number of packets.

1241. Can you state whether you have any date upon which you can calculate to what

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extent the frequency of communication will naturally have the effect of increasing postal communication between the two countries?—There can be no doubt that increasing the frequency of communication would tend to increase the amount of correspondence; but hitherto such increase of correspondence has not been so great as I should have expected. I find that when the packets were made weekly instead of fortnightly, there was not that great increase of correspondence which might have been anticipated. I find, also, that the correspondence in winter months when the packets are half as frequent as they are in the summer, is scarcely perceptibly less than it is in the summer months. These facts, it must be admitted, discourage the notion that more frequent dispatches would produce a great increase of correspondence.

1242. Supposing that the packets were to touch at Holyhead, and deliver the mails there, do you think it would be practicable to have the Irish letters previously separated in the sorting, and put into separate bags, so that they might be sent off immediately from Holybead to Dublin?—In my former evidence I proposed that the Irish letters should be separated in America from the letters for Great Britain. I stated that they are now separated to a certain extent; they are made up in separate bundles, but they are not put into separate bags. The further separation into bags is so trifling a matter that it is not likely that the United States Government would object to it. Colonel Maberly, it will be remembered, concurred in the opinions, that although we have no right under the treaty to demand the separation, it would in all probability be conceded.

1243. You would only require the whole of the Irish letters to be put into one bag or one set of bags, and you do not apprehend any difficulty in that?—There would be no difficulty, except such as might arise from incompleteness in the address; many of the letters would not be addressed to "Ireland," they would be addressed "Mullingar," and so on, and perhaps the sorters in the United States might not know that Mullingar was in Ireland. But I do not attach much value to that objection, because the arrangement itself would tend to correct such omissions. If people found that the addition of "Ireland" was necessary to the speedy delivery of the letter, they would make it.

1244. And that would of course be the case, especially with business letters, which are of most importance?—Certainly.

1245. If the vessel came round Cape Clear to Holybead, and arrived there after the night mail had gone to Dublin, might there not be a vessel in readiness to take the mail over to Dublin immediately upon its arrival at Holyhead?—The average saving by touching at Holybead, availing ourselves of the packets as they are, would be 21 hours upon the Irish correspondence. The Holybead Railway Company has its own packets, and perhaps some arrangement might be made to send the mail bags by their packet, when it happened to be the first that was going. The cost to the Company would be a trifle if we did not interfere with their hours. That would divide the day into three parts. I think that would be the most feasible arrangement, and though the Company were paid handsomely for the service, the cost to Government would be small compared with the expense of having another packet always in readiness.

[*The Witness withdrew.*]

To the Commissioners appointed to consider a Transatlantic Packet Station.

Memorial.

The MEMORIAL and Representation of the Committee for the affairs of the Estate of the Trustees of the Liverpool Docks;

SHEWETH,

THAT your Memorialists have under their management the estate of the Liverpool Docks. That your Memorialists have been informed that a Report of the Commissioners appointed to consider the subject of a Transatlantic Packet Station is about to be presented to Parliament. That your Memorialists are desirous of bringing under the notice of the Commissoners the facilities afforded by Liverpool for such packet station, previously to such Report being closed and presented to Parliament.

Liverpool has been the port of arrival and departure for the North American Mail Steamers since their establishment. The easy means of access to, and departure from, Liverpool for steam-ships of the class carrying the American mail at nearly all hours of tide, day and night, render it most suitable for a packet station; as proved by the unvarying precision in the departures and arrivals of the North American Mail Steam-ships, their being not a single instance of any one of these steam-ships touching ground in departing from, or in entering, the port in the night or day, since the establishment of the service, eleven years ago; nor has there, during that period (but in one instance) been a delay in starting at the appointed hour, and that was a delay of only a few hours, attributable in no degree to disability of the approaches to the port of Liverpool, but to a gale of wind rendering it impossible for the Post Office authorities to embark the mails.

Liverpool is not only the great central depôt for goods in transit to America, but it is also so for passengers; so that, irrespective of cost or trouble to passengers going to any outport to embark, Liverpool is so entirely the focus of American business, that mercantile gentlemen, who constitute the great bulk of passengers travelling by mail steamers, require, as matter of necessity, to visit Liverpool just previously to embarking;—and it is fallacious to assume that it would be either desirable or a convenience to them to embark at another port in preference.

It is a notorious fact that the distance from Cape Clear to the entrance of the port of Liverpool does not exceed a 24-hours' average run for the present North American Contract Steamers; and, in outward passages, the advantages of the Northern Channel have of late become to

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Memorial.

be better understood, and that channel is likely to be more used by these vessels in time to come; so that the prevalent adverse winds, which would prolong the passage by Cape Clear, would be favourable for the North Channel passage.

The certainty that cargo consisting of manufactured goods, on which the steamers rely, to a great extent, for revenue, would be diverted from the British Contract Ships, if they departed from any other port than Liverpool, and transferred to the American or other direct line, and be the means of supporting them at the expense of the British Contract Ships, seems deserving of consideration.

The immediate connexion of Liverpool with all England and Scotland points it out, from its central position, as the most desirable port for the packet station. There, the merchants, both north and south, are placed on an equal footing with regard to correspondence; no advantage can be had by one over the other, in point of time, for despatching their correspondence, which is of great importance in mercantile business.

There are, besides, private grounds for the non-removal of the packet station,—such as the interest of the contractors, which would most materially suffer, and the Government would be asked for a large increase in the amount of contract.

The Committee of the Liverpool Docks have, at a very large outlay, constructed wet-docks, together with graving-docks, and provided other accommodation for these ships, such as the Committee feel justified in saying is not given in any other port in the world. A plan of the Liverpool Docks accompanies this Memorial; an inspection of which will show the widths of the entrances, the depths of the sills, and the area of dock water space. In no other ports are there docks of sufficient width of entrance for steam-ships of so large a class to enter. No port in the Irish Channel or in Ireland now affords the necessary accommodation for repairs of hull or machinery, or for loading or discharging cargoes.

The Committee of the Liverpool Docks rely upon the revenue derivable from the dock duties, authorized by their local Dock Acts to be levied upon ships and cargo, to meet the interest upon the cost of constructing these docks and works, and the necessary expense of wear and tear, and management of the same. They have incurred this liability, first, to meet the wants of this particular branch of trade; and secondly, in the faith that having provided the accommodation, the port of Liverpool would continue to be the port of arrival and departure for the British and North American Mail Steamers. Any change of their destination must, therefore, as it appears to the Committee, seriously affect the financial position of the Liverpool Dock Estate, by impairing the sources of revenue.

To provide docks and graving-docks in any port on the coast of Ireland, or elsewhere, must involve an enormous expense on the part of Government, and cannot be completed for a number of years yet to come.

Your Memorialists, therefore, earnestly call the attention of the Commissioners to the facts now laid before them, and pray that no step may be taken, nor recommendation be made, which may so seriously affect and injure the interests of the port of Liverpool, where every convenience already exists for the present wants and prospective increase of this particular branch of trade; and where there is the means of enlarging such accommodation to any extent without expense to Government; and where it will be most extensively appreciated by the whole mercantile community of Great Britain and America.

THOMAS LITTLEDALE,

Dock Office, Liverpool,
21st March, 1851.

Chairman of the Committee for the affairs of the Estate of the Trustees of the Liverpool Docks.

THURSDAY, 3rd April, 1851.

The Right Hon. the Earl GRANVILLE in the Chair.

J. B. Moore, Esq.

April 3, 1851.

John Bramley Moore, Esq., examined.

1246. You are connected with Liverpool?—I am. I am deputed to come here on behalf of the Corporation of Liverpool. Another gentleman was to have joined me here, but he is at present attending upon a Committee of the House of Commons.

1247. We are informed that the Corporation of Liverpool are anxious to give us, through your means, some oral information upon the subject of this inquiry, which is, whether it is desirable to remove the Transatlantic Packet Station from Liverpool to some port in Ireland. Will you state your opinion upon that subject?—As a commercial man, I should say that it is decidedly not advisable to do so. When we take into account that Liverpool is the capital of all American commerce—that everything centres there in the shape of passengers, merchandise, and correspondence, at least the great bulk of it, I think it must be evident that the removal of the packets (I speak particularly of the Cunard Packets) would be attended with inconvenience, loss of time, and a great deal of expense, and also that it would incur a very considerable addition of expense to the Company themselves, inasmuch as they would lose a great part of their present traffic, both of passengers and of merchandise. At present they take merchandise from Liverpool, and of course Liverpool is much nearer to Manchester and the manufacturing towns than Holyhead would be; and it would be a very large increase of mileage to send them to Holyhead. The expense of conveying goods by land for any considerable distance forms, of course, a very heavy additional per-centage on the expense of freight, inasmuch as they travel thousands of miles by sea for less money than they can go 40 or

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50 miles by land. Therefore, that would be a direct tax upon the merchandise going to Holyhead to be embarked, instead of Liverpool. It would also have the effect of throwing the carrying trade entirely into the hands of the American steam-vessels; they would have the command of the whole of the carrying trade, being so much nearer to the seats of the manufacture than the Cunard vessels would be at Holyhead.

1248. If, instead of Holyhead being adopted, a port on the west coast of Ireland were fixed upon, would your remark still hold good?—Much more strongly. Take the case of a passanger:—Supposing a passenger came to Galway (I will speak now of myself, and you may take an individual case as representing the case of the mercantile community at large): If I wanted to come to Liverpool, and the steamer went to Galway first, and there was another going to Liverpool equally capable and speedy, I should go direct to Liverpool, for these reasons:—first of all, when I got to Galway, I should require some conveyance to take me on to Dublin. And unless a train or coach should fit in exactly at the arrival of the steamer, I should incur delay there and expense, and I should have the annoyance of my luggage. When I got to Dublin I should have this to repeat, and I should have delay and expense there again, unless a boat should exactly fit in to convey me over to Holyhead. Then I should have the inconvenience and trouble of my luggage again, and perhaps wife and children. When I get to Holyhead, it requires again that a train should suit the arrival of the boat, for me to get on to Liverpool, for the great bulk of the passengers go to Liverpool. I should then have to go to Chester, and from Chester to Birkenhead; at Birkenhead I should have to change again to get across the river, and then I should have to take a cab again there, to get to my hotel. Now, those are inconveniences to which no passenger would ever submit, when, instead of coming by Galway, he could go direct in a vessel to the port of Liverpool, and, I think, in less time.

1249. When you say that the great bulk of the passengers are for Liverpool, you mean that now those who come from America are mostly either Liverpool merchants, or Englishmen, or Americans, having business in Liverpool?—Yes, Liverpool, being the centre of the American business, amounting, at a moderate computation, to some fifteen or twenty millions sterling per annum, must be the place to which everything connected with the commerce will direct itself.

1250. With regard to either a Belfast man or an Englishman having business in Belfast, the case would be the reverse of what you have stated?—No doubt of it. But there are very few Irish passengers by these boats. The fact is, that they are not worth naming. A very large amount of correspondence goes to Ireland—more than would be supposed—but that is unimportant, inasmuch as it is not commercial correspondence—it is correspondence chiefly connected with emigrants, who have gone out to the United States and Canada, writing to their friends.

1251. How do you know that to be the fact: how can you prove that it is not commercial correspondence?—I prove it in this way—that there is no commerce with Ireland of any amount.

1252. With the exception of Belfast?—Yes; but that is unimportant compared with the commerce of Liverpool and that district. There are letters to a large amount, and that is a very natural consequence, when you have had an emigration last year amounting to 166,000 people. The great bulk of those went from Ireland, and it is natural that there should be a very large correspondence carried on with their friends and relations, giving an account of themselves, and inviting others to go. This correspondence brings no bills of lading, orders for insurance, or commercial remittances.

1253. Do you know what is the amount of business between Belfast and America?—No.

1254. You have every reason to believe that it is very small compared to that of Liverpool?—It is small, very small compared with that of Liverpool.

1255. But still there is no actual proof of that fact: it is only assumed to be so?—We could ascertain it approximately from the manifests in this way. A boat coming from Belfast to Liverpool will bring over a cargo for every part of the world. I am directly connected myself with South America—with Brazil; and the same boat that brings me over 50 or 100 bales or cases of merchandise to ship to Brazil, brings at the same time packages for the West Coast of South America, and for North America, and every part of the world; so that you could only get an approximation.

1256. Do you think you could get an approximation of the real proportion if you had a little time?—I think it could be done.

1257. Will you be good enough, in concurrence with the Finance Committee, to get as near an approximation as the circumstances of the case will allow, and to send it to the Commision?—I will endeavour to do that. There are certain manufactures connected with Belfast which are exported, and I think it is possible to get an approximation as to how they are divided to different parts of the world; but it is not a thing which is given in any official Returns to the Board of Trade in any shape, as they go first to Liverpool, and exported from thence.

1258. Does everything that comes to Liverpool from Belfast for shipment to go abroad come by regular steamers?—Yes.

1259. You spoke of loss of time by embarking in Ireland. How do you make out that there would be loss of time for passangers and for letters?—I think I have shown that there would be great expense and loss of time as regards passengers by the frequent changes that would take place.

1260. Do you mean that it would take longer to get from Liverpool to New York by Galway, than by going by sea all the way from Liverpool?—I think it would. You can come from Galway to Liverpool by sea in 24 hours. You could not go from Liverpool to Galway to embark in much less time. It requires that everything should fit in all the way from Liverpool. First, to Chester—then from Chester to Holyhead—then the boat from

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J. B. Moore, Esq.

April 3, 1851.

Holyhead to Dublin—and then you must have a train to fit in again there to get you on to the place of embarkation. Now I say that such would be the difficulties in the way, and the delays and inconveniences with your baggage, and with your families, that few persons if any would avail themselves of it. Besides, I think there would be no saving of time, but a loss of time—and even if you saved a few hours, you must be there the night before—you could not go through the same day. Now you go direct down to Liverpool by the train, go on to the great landing stage which there is there, measuring about an acre of deck, and have your baggage and yourself put into the steamer, and go on board at the very last moment without any inconvenience whatever, at any time of tide.

1261. Would not the conveyance of the letters fit in in the way you have mentioned?—I think it would be very difficult to make the conveyance of the letters fit in where so many different conveyances would be wanted. But it is much easier to do it with correspondence than with passengers. There would be a loss of time as regards correspondence with Liverpool and with Manchester. We should have to write our letters and post them the night before at eight o'clock, because the letters would have to go to Chester, and from Chester to Holyhead. Supposing the steamer were sailing to-morrow from Holyhead, our letters must be posted to-night. Now if she was sailing from Liverpool to-morrow at 12 o'clock, most important transactions might take place during the whole of the morning—and we can post our letters up to half-past eleven, and she might go out of the river at twelve o'clock. If she went from Holyhead, those letters must be posted the day before.

1262. Your comparison applies to Holyhead—but applying the question to a western port of Ireland, and supposing there to be a continuous line of railway communication from Liverpool to Galway, may not it be presumed that any passenger who took one of the mail trains would not be delayed on his way?—It would be almost impossible for passengers going by the steamer to avail themselves of such conveyance, with such rapidity as to avoid any delay. There are perhaps very often 80 and sometimes 110 or 120 passengers. Now imagine so many people taking advantage, as they will do, particularly Americans and commercial men of any kind, taking advantage of the last moment before they go, to get information. As it is now they can go and embark at the last moment—but they could not do that if they had such a journey to undertake to Ireland. The effect would be that the passengers, assuming that the boats which went from Liverpool were equally powerful and equally good, would all go by the American steamers—and goods also. You must recollect that mercantile men going about in this manner do not take servants with them to look after their luggage ordinarily—they have all this to do themselves, and therefore they would under such circumstances, rather embark at Liverpool. Assuming that they would save even a few hours by embarking in Ireland, they would still greatly prefer embarking at Liverpool, to avoid all those charges by going first from Liverpool to Chester—then from Chester to Holyhead—then from Holyhead to Dublin—and then from Dublin to Galway—with all the trouble of the luggage.

1263. Might not the luggage be put under the direction of the agent of the transatlantic packet, so that the passenger would not have more charge of his luggage after he had once delivered it, than he would have by putting it on board at Liverpool?—I think that practically the result would be that they would not go there, and then with merchandise the case is much stronger, on account of the additional expense.

1264. Is there any other reason beyond expense why merchandise should not go in that way: would it increase the insurance?—I do not attach any importance to the insurance, speaking of Holyhead. If it went to Ireland, that difficulty would arise. They might put on a trifle more for going from Ireland—but that, I think, would not last probably six months; they would insure the goods from Liverpool to any port in Ireland and from thence to any port in the United States, without any increase of premium. I think that would settle down in a very few months. We receive goods from Ireland, and insure them to the Brazils for the same premium that we pay direct from Liverpool.

1265. That of course being from Ireland to Liverpool, and from Liverpool to the Brazils?—Yes; so that I do not think any difficulty would arise about insurance after the first starting.

1266. You imagine the goods would not be sent in that way, on account of the increased expense of the land journey?—Yes; the expense must be greater to get to Ireland than to ship them at Liverpool, inasmuch as from Manchester you have only a mileage of 31 miles, and then you would have the additional cost of getting them to Ireland.

1267. Is there a great difference between the cost of railway conveyance and of steam-packet conveyance?—The cost is considerably more by railway for goods.

1268. But for passengers the difference is not so great?—I should say the railway is higher than steam.

1269. The objections you have hitherto stated, have reference to passengers rather than to the transmission of letters?—Yes, but I think there would be a loss of time with letters also, not as regards London—it will be the same as regards London.

1270. You do not think there would be a saving of time as to letters?—I think not, because if you despatch the mail at night from Holyhead, it arrives in Dublin in time for business, and the same at Liverpool; but as regards the manufacturing districts there is a decided loss of time. Take the case of Manchester—there are a great many manufacturers in Manchester who are also cotton speculators and cotton merchants, and they know every moment what is going on by telegraph, and on the day of the sailing of the steamer, they come over and avail themselves of the very last moment of the steamer going, whereas if the vessel went from Holyhead they would be obliged to write the night before. So that there would be a decided loss of time.

1271. But if, instead of having a tidal haabour, such as Liverpool for the port of departure, from which the departures must vary, they had a harbour from which the vessels could go at

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J. B. Moore, Esq.
April 3, 1851.

a fixed hour, would there not be less chance of delay than at present; for instance, if people knew that the vessel would start from Holyhead or from Galway at a fixed hour, they could write their letters accordingly, whereas at present they do not know the hour at which the vessel will leave Liverpool, because it depends upon the state of the tide?—Yes, it certainly depends upon the state of the tide—but the inconvenience arising from that is only occasional, it is not daily.

1272. But if the vessel were appointed to start the moment when the mail arrived, then people would be able to write up to the last moment, because they might write up to the time that the mail started from the place at which they were?—It would gain time as regards the London correspondence, but I do not see that it would gain time for Liverpool and the manufacturing districts.

1273. Must not the varying hours of departure always be inconvenient for all other places except Liverpool?—There is a certain amount of inconvenience about it, no doubt.

1274. Must not it be inconvenient to such places as Birmingham and Leeds?—As far as regards Birmingham, I do not see that there is much inconvenience in it—there is some, of course, but not to any great extent. Supposing the boat sails at 12 o'clock, you can leave Birmingham with perfect comfort in the morning, and go on board her at once, without any trouble or inconvenience.

1275. Supposing it sails at 3 o'clock, you may get to Liverpool at 12, and have to wait three hours?—You may.

1276. In fact, with respect to London letters of the evening before, the London merchant does not know whether those letters will not be delayed seven hours at Liverpool?—He may always know it, the time of sailing being advertised

1277. Is not the inconvenience on the arrival of a packet still greater than on its departure owing to the delays which sometimes occur before the vessel can pass the bar, by which the immediate delivery of the letters is prevented?—That is a difficulty very easily got over by a tender: a tender can always take the mails out of the boat outside the Victoria Bar.

1278. Is that done?—I am not sure whether a tender goes out now or not; they did before the Government gave up their packet agency. When the Government had their station there the "Redwing" used to go out; but I am not sure now.

1279. Why do they not do it now?—The establishment is broken up.

1280. Why do not commercial men require it now?—I do not know; I fancy it may be in this way—that there are certain times when a steamer cannot get over Victoria bar for a short time, and she probably times her arrival so as to get over.

1281. Must not that make a difference of two or three hours sometimes?—I should think it would; but I should think much more time would be lost if those letters were landed at Holyhead to go round. The American correspondence is of much more importance to that part of the country than it is to London.

1282. From what you have stated it would follow that if the transatlantic packets were removed to a station on the west of Ireland, the Government would have to pay a much larger sum for the transmission of the letters than they do now?—I believe so; inasmuch as the steamers would be deprived of a great portion of their carrying trade. I think that follows as a natural consequence.

1283. It has been stated to the Commissioners in evidence, that in the opinion of some Irish gentlemen a very large trade could be carried on by these transatlantic packets, by carrying passengers at much lower freights than at present; and that great facilities might thereby be afforded for the emigration now going on, and which appears likely to go on for some few years from Ireland?—But they cannot descend to take the class of passengers that go as emigrants; they can only do this at the sacrifice of their first-class passengers.

1284. The proposal is, that they should be taken in the place of cargo, not that they should be put into the cabins which are at present occupied by passengers?—I would not go in a vessel that had two or three hundred emigrants on board, on any account, nor would scarcely any first-class passenger.

1285. You think it would discourage first-class passengers from going in those vessels?—No question of it: no one would go.

1286. Why not?—I would not go on any consideration. Being accustomed to make voyages I know that the annoyance and inconvenience would be such that I would not go on any terms.

1287. You think they would not be able to mix the two classes satisfactorily?—It would be impossible. You must have a great amount of inconvenience and disagreeableness to put up with on board a ship with 200 or 300 passengers on board. Then I do not see how they could take them out in these vessels for that price. There are vessels now fitted up for the purpose, which treat them, in fact, as nothing more than live merchandise. They are fitted up entirely for the conveyance of emigrants, whom they take at a very cheap rate, for they are found to pay better than bale goods, at the low freight at which sailing vessels take them. They take them at such a low figure that the steamers, I think, could not do it.

1288. Have you much acquaintance with the commercial communities of Birmingham, Leeds, Manchester, and other places besides Liverpool?—I am connected with all those towns in the way of business.

1289. Can you state how it is that, knowing that this inquiry was going on, none of them have made any recommendation to the Commission on the subject, except the Chambers of Commerce of Liverpool and of Glasgow?—The fact is, that it has not been known. The President of one of the Chambers at Manchester is a particular friend of mine (Mr. Turner). I wrote to him to ask him about it, and he had never heard of it. In the view I have taken of the question, I have put it on the broad footing of general public convenience. There is no

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J. B. Moore, Esq.

April 3, 1851.

doubt that the town of Liverpool is greatly interested in the question as a town question, but I put that entirely out of sight.

1290. Do those third-class passengers, the emigrants, take a great deal of luggage with them, consisting of beds, and pots and trunks, and so on?—A great deal of luggage.

1291. In fact, they take a great deal of lumber with them?—A great deal. They are most frightfully robbed in Liverpool, I am ashamed to say—it is lamentable.

1292. By whom?—By impositions. The moment they arrive at Liverpool, there are what are called "man-catchers" to meet them on the quay; they are surrounded and besieged, and it is difficult for them even to get hold of their own luggage. Those men drag them to a lodging-house keeper; they take them there, and they are paid by the lodging-house keeper for taking him lodgers. As soon as he gets them there he gets into conversation with them, and finds what money they have got. He says, "Oh! this money is of no use to you where you are going to—you must get it changed; we will take it to the money-changers and change it into dollars"—or something. Then he has other things to buy, and he is cheated in every one of them. The year before last I happened to be the mayor, and I fined about 1000 people for short weights and false scales; and out of those I should think nearly 500 were provision-dealers and parties brought more immediately in contact with the emigrants. The maximum fine is 5*l*; and some of them, when you fine them, pay the money, and laugh at you because it answers their purpose; they can afford to do it.

1293. Cannot the local authorities find any remedy for that abuse?—There is great vigilance now used by the Inspectors of Weights and Measures; but in spite of all this, those men are constantly on the alert. They have heavy weights to buy in with, if a man has anything to sell, and they have short weights to sell out with This imposition goes on in everything up to the last moment, and perhaps at the eleventh hour, when the man is going to embark, they make some great demand upon him at his lodgings. They say, "Oh! you have had so-and-so, and you must pay for it." The lodger remonstrates, but he is in this situation,—he has paid his passage-money, he has no time to go before a magistrate, and therefore it just resolves itself into this—which is the lesser of the two evils, to lose his passage and forfeit his passage-money and try to get redress for the imposition, or to submit to it. The imposition is the lesser evil of the two evils, and therefore he pays the money and goes away.

1294. Is there not an Emigration department which overlooks those things?—This is beyond their reach. I was Chairman of the Liverpool docks for a number of years; and before I left it I was endeavouring to get an Emigrants' Home established connected with the docks, under the management or influence of the Government, by means of which all these impositions could be avoided entirely. Such an institution would be self-supporting.

1295. Are not those impostors generally Irish?—A great many of them are.

1296. Why should such an establishment require the sanction of the Government, why could not it be done by Liverpool itself?—About a fortnight ago I gave evidence before a Committee of the House of Commons, which is now sitting upon this subject, and there are sufficient reasons why. A great many of the inhabitants are opposed to it. Then there are all the low lodging-house keepers—there are all the parties connected with the dishonest tradesmen who live and fatten upon those poor emigrants. Then you have another body, who, I believe, have come up now to give evidence upon this very subject, representing what they call the Householders' Association; they imagine that it would affect their rents and their trade, and therefore they all oppose it—they think they will not be able to let the class of house, which is usually adapted for this purpose, at so high a rent. Any abstraction of the lodgers would, in their opinion (and probably it is so), reduce the value of their property. Therefore, there is a great combination of parties and interests to oppose a scheme of this sort. There are great difficulties about private individuals undertaking things of this sort. I myself proposed, with a few others, to build a place for this very object; but it requires a great deal of time and attention; and in a pecuniary point of view it could not be entertained, because it could only produce a trifling return as interest for your money. I would not embark in a thing of this sort as a speculation, and if done in that way, there could never be the same confidence felt in it which would be felt if it had the prestige of the Government. If the Dock Trustees undertook it, and the Government gave it their sanction, I think the thing would go on perfectly well, without the Government undertaking the risk of the buildings, or anything of that sort.

1297. How do you account for so many emigrants going to Liverpool to embark, when they are exposed there to all this imposition and injury?—There is no other place for them.

1298. Do not many emigrants embark from Irish ports?—They do; but they find it more convenient to come to Liverpool. If they could go with the same convenience from any neighbouring port, they would not come over there. They come to Liverpool for a very trifling cost—less than it would cost them to go to many places in Ireland by land. Then the emigration from Liverpool comprises also Scotland and Wales, and a great amount also from the Continent. If you concentrate a great number of emigrants at any port to load a ship, of course you can send them from Belfast or Cork, or any other port, as well as from Liverpool; but where you have not a succession of emigrants to keep up and supply a stream of vessels going in turn, you cannot do that. You may have a vessel occasionally from Belfast to any port in Brazil, or to the United States, but not as a regular thing; therefore they are compelled to send their goods for shipment to Liverpool, whence vessels are going at stated periods every fortnight or every week.

1299. It has been stated that there is a very strong feeling in America on the subject of shortening the steam communication by going to Ireland. Have you any information upon that subject?—If that were the case, I would ask, why do not they set the example by their

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J. B. Moore, Esq.
April 8, 1851.

own steamers going from there, and avail themselves of that advantage. It would answer their purpose that our vessels should go from Ireland, inasmuch as they would then get all the carrying trade from Liverpool. In that way they have a direct interest in the British boats going to a more distant port, because they would command the whole freight. If there were any advantage in it, I am sure Brother Jonathan would take it, and go there himself.

1300. Do you think that the commercial community desire more frequent postal communication with America?—In my own opinion, I should say not,—I should say that once a week is often enough.

1301. Do you think it likely that they will send letters by screw steamers that run to America, particularly if those screw steamers were to be increased in number?—Not unless they give greater despatch than at present. We always send by the quickest conveyance, regardless of cost. We get our letters from Brazil, by way of Lisbon, for a fast vessel is constantly going to Lisbon; by way of the northern ports, by Pernambuco. I am interested in two ships myself that invariably cut out every man-of-war and every packet. Those vessels, and three or four others, owned by other parties in the same trade, always anticipate the packets.

1302. Do they carry the letters in consequence?—They do.

1303. In case of increased communication being given for postal purposes, which would the merchants prefer—that the passage should be shortened, or that the number of vessels should be increased in the same proportion?—If there was a vessel every day, we should write by her every day; and if a vessel is detained by tides, or a packet is detained at Southampton or Falmouth, or wherever it may be, we go on writing, and expend pounds and pounds in postage, because in those cases every letter that we have written for the last seven or eight days is superseded by the one which we write at the last moment. In consequence of new circumstances, arrivals, and changes and fluctuations in the markets, all the others go for nothing: so that, however frequent you make the communications, merchants would write by them; but I say it would be unnecessary.

1304. Do you anticipate any great advantage from the electric telegraph for commercial purposes?—No doubt about it.

1305. In what way would it be applied, so as not to give undue preference to any one party?—As it now exists between Liverpool and London, we very often transact business by that means. Only a few days ago, I sent up an order to buy a certain quantity of gold, at the last moment, to go to Southampton on board a steamer. I availed myself of the very last day for doing it, holding off at Liverpool in the expectation of advices from South America, to inform me of the price of certain coins there, doubloons, which are affected by the question of peace or war with Buenos Ayres and Brazil. And instead of writing off a day or two before, I sent off on the very last morning by telegraph, to tell them to send down so many dollars or so many doubloons, and they were sent down the same morning that we wanted them.

1306. If the packet came to Ireland would it not save you many hours by the electric telegraph?—You would gain something by that, no question of it—that is very true. But there is another question which must be taken into consideration, namely, whether the community at large would benefit by such a communication, or not. If you throw the advantage of prior information into the hands of one or two, I should say that to the community at large, taking a broad view of it for commercial purposes, it is a disadvantage in such case.

1307. Therefore there is some danger of the telegraph being absolutely injurious, if it gives that sort of priority?—It is injurious in some cases. The Manchester people are very much upon the alert—priority of information in the cotton-market is a fortune to any man who can obtain it for an hour.

1308. Could that be prevented if the packet station were in Ireland with an electric telegraph?—I do not see that it could be prevented in that case. We suffered under that inconvenience a short time before the Brazil Packet Station was changed. Very often they got their letters in London the day before we did—and as a great deal of our business is centred in London, they had the advantage of knowing the state of the markets from abroad, and could telegraph to Liverpool and tell any changes that had taken place in coffee and sugar, or any other article, before we got our letters: that has frequently happened.

1309. If the packet made Ireland some 20 or 30 hours before the same packet arrived at Liverpool, would there, in your opinion, be danger under the present circumstances of the communication of disadvantage resulting from the use of the electric telegraph?—I should say there would.

1310. Would there be greater danger in that case at Liverpool than what now exists in London, or Leeds, or Manchester, in consequence of the news arriving first at Liverpool now?—They are not connected with the speculative part of the American trade.

1311. Is not London?—London is not connected with it, except very partially. London is the place where credits are given by bills, but the real business of America is done in Liverpool, principally by the cotton manufacturers and spinners.

1312. Mr. Kennedy, a merchant at Belfast, in advocating the propriety of a packet station in Ireland, says that they now lose four days in bill transactions, by the bills having to be first sent from England to Belfast, and then back again for acceptance?—I do not see that. I know that the bills drawn upon my house generally come with the goods. I do not see where the loss arises, inasmuch as they send a bill from Belfast to Liverpool for acceptance, and they get it the next morning—consequently, the moment the bill is accepted the time is running. Therefore it is immaterial whether it is one day or two going back, because the time is running, and he has all the advantage of it; therefore that cannot hold: but should any inconvenience or delay arise, it is obviated by the remittances being sent direct to agents in London or Liverpool for presentation.

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B. Moore, Esq.
April 3, 1851.

1313. It has also been stated, "We cannot get orders for goods by one packet to be shipped by a succeeding one, or we have letters of importance to reply to. We can scarcely ever obey our instructions, whilst the English and Scotch manufacturer has all the advantage. If letters were delivered in Galway, they would reach the English, Scotch, and North of Ireland merchants about the same time—all would be placed upon an equal footing."—I cannot assent to that at all. With respect to orders for manufacturers, there are certain kinds of manufactures that are ready in stock, to speak in mercantile language; those, if they are in stock, can be sent off at a moment's notice by steamer. There are steamers to Liverpool every day, therefore I do not see where the loss of time is; the most he could lose is one day. Then, when you take into account the relative importance of the Belfast manufacturer in comparison with other portions of the trade in Yorkshire and Lancashire, and that he is only a fractional part of the trade, I think he may consider himself very well off if he gets it so soon as that.

1314. Would he be much worse off than the merchant at Glasgow?—Not at all. I was going to allude to Glasgow. They would have greater ground of complaint there, for they have a larger trade.

1315. But the Irishman would say that he has a natural advantage as being nearer America, and that you have no right to make an artificial distinction?—If the Irish trade were of that importance that he could maintain a line of communication with America, I could see the force of that; but so far from that being the fact, they cannot maintain a line of sailing ships to carry their goods out. If they could, they would not send their goods to be shipped by sailing vessels from Liverpool. It happens occasionally that vessels go from Glasgow to different parts of the world. It happens in this way:—if we happened to have a large shipment, so as to induce a party to send a vessel cheap there, we should take her and lay her on there, and endeavour to fill her up in the best way we could, by inducing other parties to ship at a low freight, rather than send her to Liverpool; but that is only an occasional transaction, and you cannot keep up a succession of vessels in that way. In that case the goods would not come to Liverpool to be shipped at all.

1316. Have they not more direct trade from Glasgow to America than from Belfast?—They have.

1317. Is there anything further which you wish to state on this subject?—There is one point which cannot be too strongly impressed upon the Commissioners, that any change of the packet station to Ireland would be to the decided advantage of the Collins's Line of Packets, for in that case they would sail from Liverpool, and command all the trade, and that, of course, would be an abstraction of so much merchandise that ought to go under the British flag, which would be excluded from our account, and extra cost would be imposed upon all that went to Ireland for embarkation. So that, as far as American interests are concerned, they have a direct pecuniary interest in the Cunard vessels being removed there. For myself, I have no interest in it; my transactions with North America are direct, between there and Brazil.

[*The Witness withdrew.*]

[Adjourned.]

SATURDAY, 5th April, 1851.

The Right Honourable the Earl GRANVILLE in the Chair.

Lord Monteagle.
April 5, 1851.

The Right Honourable Lord Monteagle further examined.

1318. Your Lordship wishes to make some addition to your former evidence?—Since I had the honour of being examined before you I have received a letter from Captain Randall, the Harbour-master at Limerick, under the Harbour Commissioners, which, with your Lordship's permission, I should wish to put in. It is an explanation of one of his answers which he wishes to record, and it is accompanied by what renders his explanation more intelligible, a larger survey of the Harbour of Foynes, exhibiting the practical mode in which he would propose to meet the difficulties suggested as to mooring and anchoring the vessels coming in. I make no observation upon that part of the question. I do not pretend to understand nautical affairs, but I may take the liberty of mentioning here, in reference to the force of the currents, upon which observations were made, that the force of the current assumed to exist in the previous examination, is the force of the current at the narrowest and consequently the most rapid part of the gut between the island and the mainland, and it by no means measures the velocity of the current in the position which is marked for anchorage. The Commissioners will see that from the breadth marked on the chart from the one rock to the other is the narrowest point of the whole, and that you have there the maximum velocity of the current. It was in consequence of that velocity that the original plan of the Shannon Commissioners, which placed the landing wharf and station between those two points at the narrowest point, was departed from, because it was considered that that velocity of the current might be inconvenient. The pier has been built further to the eastward, where, from the opening of the banks on both sides, there is a much wider space left for the tide to spread over, and consequently where there is a great diminution in the velocity of the current. I am not enabled to say how much the velocity is reduced, but I know from my own experience as a river boatman, that at the anchorage we are, comparatively speaking, in still water. I may be allowed also to add to the previous evidence which I laid before the Commissioners, that the Emigration and Colonial Land Commission have, since my previous examination,

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obtained a further report with respect to the amount remitted from emigrants to North America, sent to their friends in the European dominions of the Crown. Mr. Murdoch, the Chief Commissioner, informed me that the return, though correct as far as it went in other respects, did not include the whole of the remittances, as the Commissioners only procured it from the larger banking-houses, and had no means of tracing the lesser remittances directly sent through private parties. In my previous examination I think I stated in respect to the years 1847 and 1848 that the remittances sent were 460,000*l.* in the first of those years, and 560,000*l.* in the second year, the remittances for the third year have now been made up, and they amount to the enormous sum of 950,000*l.*

1319. To Ireland?—Almost exclusively to Irish. Some are to Irish in England, but chiefly to Irish people in their own country, mainly, though not exclusively, intended to assist in the emigration of members of their families to America.

1320. Do you happen to know whether they have been able to make any calculation of how much that is per head?—I do not think they have, but the result of the whole is, that close upon two millions are ascertained to have been remitted in the course of the three years, and that the greater portion is applicable to emigrants' passage money to America. Then I ask leave to send in to Lord Hobart, for the purpose of being added to the other documentary evidence, an extract from the last Official Report of the Admiralty, containing the Sailing Directions published by Captain Wolfe as to the Shannon, and referring to Foynes. That extract completes the series of public documentary evidence upon that subject. I have another private document, the last I have to trouble you with, which is a letter written by me in the year 1846, to the Ballast Board in Ireland, our Irish Trinity Board as far as lights are concerned; as it relates to the lighting of the Shannon, and as I was asked a few questions upon, the subject I wrote to the Ballast Office for a copy of this letter, which I now deliver in as the best answer I can give to that question.

1321. How do you account for the great body of Irish emigrants coming over to England for the purpose of making their transatlantic passage?—First, there is a portion of that emigration which would come naturally to Liverpool; all that would go cheaper from Liverpool than from any other port. Of course, upon the eastern coast, where they get across for little or nothing to Liverpool, they would naturally take the Liverpool passage, unless there was an under-selling competition at the other side, lower than I expected. But there is another cause, and that is, because there is no punctual sailing shipping at any western port; there are no American ships, except occasionally, perhaps, from Galway or from Sligo.

1322. Are there not American ships from Dublin, Belfast, and Cork?—There are many from Dublin, Belfast, and Cork, and there are several from Limerick. We have had a considerable emigration of a most interesting kind from the city of Limerick, chiefly carried on by Mr. Spaight. The result of that emigration upon the peace of the country, and the promotion of improvement there, are given in Mr. Spaight's evidence before the Colonization Committee. That evidence so forcibly struck the late Lord Ashburton, that he observed to me "I have been toiling at this Committee the whole Session, but I am more than recompensed by having heard the information given in Mr. Spaight's evidence." It may be material to say that that scheme, which was pre-eminently successful, became so in consequence of Mr. Spaight, who is a great shipping owner in the south of Ireland, being enabled to reduce the rate of freight for his own emigrants. The result was, that a great number of emigrants sailed from Limerick, who would have otherwise gone to Liverpool.

1323. Do you know at what rate they were carried from Limerick to North America?—I think it has been done for 50*s.* occasionally.

1324. With food?—With the ordinary food. I think it has been quite as low as that.

1325. Is it the want of capital that prevents ships going regularly from the coast of Ireland, or is it that they cannot assure themselves of a sufficient stream of passengers to justify them in establishing a regular line of ships for the purpose of conveying them?—I think it is want of regularity; to emigrants regularity is more important than a little saving in money. Suppose a man coming from the interior, from the county of Clare, or the county of Kerry, to Limerick, and he is kept there for the sailing of a ship for a week or ten days; that is a greater loss to him than a saving of 10*s.* would be in the amount of the passage. Now from Liverpool the tide of passengers is so rapid that they are certain never to lose any time. Mr. Minton, one of the greatest shipowners in America, was examined by me before the Colonization Committee of the Lords as to the value of the freightage or passage-money upon emigrants, and he stated that, according to the best calculation they were able to form in the city of New York, the annual value received for the passage of emigrants amounted to a million sterling a-year; the gross amount received by them. He said, "We could not carry on our cotton trade with Liverpool upon our present freights, if it were not for the profits that we have by our spare freight being taken off by the demand for emigration."

1326. Have you ever happened to see emigrants departing?—Yes.

1327. Do not they take a great number of packages with them, consisting of furniture and lumber of various kinds?—No; they take a chest, but they do not take very much furniture; they sell all their furniture and realize it. You could obtain full information upon this subject from a man that knows more about the Irish emigration than any one I know, which is Mr. Miley, a considerable shipping agent, of Eden Quay, Dublin. He told me that among the duties of his office he was called upon to realize the value of their effects in bills, and they take over large remittances. In one vessel, a vessel of Lord Palmerston's, which was supposed, and represented, to have been sent out in a condition of entire destitution and distress from Ireland, the people were in possession of 1,500 sovereigns. They were represented as being clothed in rags, and in a state of such entire wretchedness, that it was a scandal both to the proprietor and to the country from which they were sent. Every one of those had new clothes

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Lord Monteagle.
April 5, 1851.

prepared at Lord Palmerston's expense. Their clothes were locked up in their boxes, and the people went on board in their old rags to spare their new clothes.

1328. Do you recollect how many of them had this 1500*l.* among them?—I forget how many there were. There are most extraordinary facts to show that you have enormous resources that will tell upon freight and pay passage, if there are facilities given.

1329. Do you think it would be possible to combine first-class passengers and emigrant passengers in the same ship?—Yes, it is done every day; there would be no difficulty in having steerage passengers, intermediate passengers, and cabin passengers. You find that done in Australian ships. But my nephew, whose chivalry induced him to take a steerage passage, with his own emigrants, in order to see how they were dealt with and treated—Mr. De Vere, whose letter upon that subject was read by Lord Grey in the House of Lords, and by Mr. Labouchere in the House of Commons, and became the foundation afterwards of many improvements introduced into the Passengers Act—went out in a ship in which there were cabin passengers and intermediate passengers, as well as steerage passengers.

1330. That was a sailing ship?—It was. I speak of course upon this subject with imperfect knowledge. But it seems to me that if it is possible to provide for classification, where you have a forty or fifty days' passage, it would be much easier to provide for it where you have only a ten days' passage.

1331. It is stated that as long as there was another steamer carrying first-class passengers alone, you would never get first-class passengers in a steamer carrying a large number of steerage passengers?—We know practically that when we come over from Ireland, from Cork, and Waterford, we have great numbers of steerage passengers in the packet steamers.

George Maxwell, Esq.
Henry Cleaver Chapman, Esq.
and
George James Duncan, Esq.
April 5, 1851.

George Maxwell, Esq., Henry Cleaver Chapman, Esq., and *George James Duncan, Esq.*, examined.

1332. You appear as a deputation from the American Chamber of Commerce at Liverpool?—(*Mr. Maxwell.*) We do; we have already presented memorials to the Commissioners on the importance of allowing the North American steamers to continue their departure from Liverpool as heretofore. We consider it, for the commercial interests of the town at large, most important, and not less so for the great manufacturing interests by which we are surrounded, both in Lancashire and Yorkshire. Liverpool is the port of departure for that very extensive commerce which we carry on, and it has hitherto worked so very admirably that we are extremely adverse to any change. The correspondence, as the Commissioners must be well aware, almost entirely centres in Liverpool, or the country behind it. At the present moment too there is a great rivalry, and any removal of what we think the present admirable station would have the effect of playing materially into the hands of the great rival maritime power. You are awaie that a line of very large first-class steamers, called the "Collins's" line, has been established by American people, and the removal of our British vessels from Liverpool, while they continued at Liverpool, would, we think, be nationally highly detrimental. Scotland too feels a very great interest in the question. The manufactures of Paisley and Glasgow, which are not of very great bulk, but of great value (what is called the fancy muslin trade), are sent largely to America. A great many men come up, almost at the last hour, with their small packages, and they do not grudge paying 6*l.* or 7*l.* a ton freight to the Cunard steamers to carry goods newly introduced into the markets—to take over, in fact, what may be called the latest fashion. Therefore the removal of the present facilities, we think, would be extremely detrimental, not only locally to Liverpool, but to the great intercourse between England and America. By the system as it now exists we have the posting of letters at the very latest hour. Even after everything is closed at the post-office there has been an arrangement made by a landing-stage, by means of which, up to a very few minutes before the vessel weighs anchor, commercial communications can be sent up to the very last hour. Of course if the packet station were fixed at a distance from our doors, where such a vast trade centres, we think it would be highly detrimental. I should be glad to answer any question that may be put, but I can scarcely express more strongly than I have done my sense of the importance of allowing a system that has worked so well to remain where it is.—(*Mr. Chapman.*) I consider it in a national point of view. The ramifications of steam communication between England, Scotland, and Ireland, in connexion with these steamers, are very great indeed; and the centralization of the shipment of goods in Liverpool from Glasgow and Belfast, and the northern ports of Ireland, is to a very large extent. Now, if these steamers were to be removed from Liverpool, the cost of transhipment of the goods sent would be very great; so great that it must amount at once to an enormous bounty in favour of the American steamers sailing from Liverpool, or what are called Collins's line. I think that is a very important point, which ought to be brought prominently before the Government, because experience shows this fact, that you cannot have steam navigation over sea, or even, I take it, from point to point, in England, to be profitable, and to be kept up as it ought to be kept up, unless either the steam navigation is protected by an absolute monopoly, so that they can charge remunerating freights, or unless, on the other hand, it is compensated for by the Government in the shape of a protective bounty. Now I hold that the bounty given to Cunard's steamers has given us that pre-eminence in steam navigation without which it would be quite impossible that steam communication could be carried on to America. The Americans feel that very strongly, as appears from the Report of a Committee made to the House of Representatives, which I saw transcribed into the Shipping Gazette some time last week. It called

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strongly upon the American Government to take this question up as a national question: they say that they have succeeded already in beating out any competition with their sailing-ships, and they call upon the Government to protect their own steam-ships in this particular service by increasing the grant.

1333. The proposal for an additional grant was rejected, was it not?—Only at the eleventh hour; it was only shelved for the session. My information is, that it is certain to be carried next year; it is one of those questions which is taken up nationally, and you know the enthusiasm in that country where it is a national question and one of rivalry with England. I am fully satisfied that if the packet station were removed, the Government must either make up their minds to double the grant for Cunard's line, in order to make up the loss that they would have both in passengers and in the carriage of goods, it would positively be conferring an enormous premium upon the American vessels. You would not only have to do that, you would be discouraging and knocking up your steam navigation, and throwing all the traffic upon railways, at great cost and inconvenience to the shippers. The Americans will do every thing to protect their steam navigation. For the accommodation of these immense steamers at Liverpool we have just built the Huskisson dock, the entrance to which is now being used as a graving-dock for these immense steamers. There is no other place in the kingdom which has accommodation equal to those graving-docks, which have been constructed at great expense, and are fit for these steamers: they are comparatively useless for sailing ships from the immense width, and the danger of shoring narrow ships in such space as that. I do not see how they could get the service done at Galway or at Holyhead.

1334. Are not great repairs to Cunard's line done at Glasgow?—All at Liverpool. The ships are built at Glasgow, but they are all repaired at Liverpool. At least all the temporary repairs are done there.

1335. When they wanted new engines they would be sent to Glasgow?—Yes, because they have facilities upon the quays at Glasgow which they have not yet got at Liverpool, but they will have at the Huskisson dock. I hope the Dock Committee will give attention to that.

1336. If it were shown that there would be a saving of time to the amount of half a day by bringing the packets to and starting them from an Irish port, do not you think that would be of some consequence to business in general?—(*Mr. Maxwell.*) Not in comparison with the advantages which now exist.—(*Mr. Chapman.*) It could not be of such very great consequence, because there are steamers running now from Southampton, and there is a line going to run from Havre—the one on Saturday and the other on Wednesday.

1337. Are the passages longer from Southampton than they are from Liverpool?—(*Mr. Maxwell.*) Yes. So far as we have seen the passage is made quicker to Liverpool than Southampton.

1338. You mean to imply that a little saving of time is not of so much consequence as to induce them to take the longer route from Havre or Southampton?—I think it is very probable that there would not be any saving of time whatever by going from Ireland, taking the transshipment into account. But that is a matter upon which of course the Commissioners have already a great deal of information.

1339. But if they did save 12 hours in a passage which is now 11 days, should you attach much consequence to that saving?—I do not think a saving of 12 hours could make any great difference—but I doubt very much whether that saving could be made, because the delays from transhipment, and the confusion of sorting the letters would be very great. There is another important point, and that is, that, after all, the parties mainly interested in the correspondence with America are almost entirely in Lancashire, Scotland, and the north of Ireland. It is the seat of the great cotton-mart that is mainly interested—there is scarcely any in London; they are very little interested in it, comparatively speaking.

1340. With regard to the north of Ireland, the Commissioners have received a very strong memorial from Belfast in favour of an Irish port?—That I can easily conceive, that they would stand out for an Irish port. They would take an Irish view of the question, and not a national view.

1341. Taking a commercial view of it, would not they be benefited by it with reference to their own business?—They do not form a tenth part of the trade.

1342. Are you aware that a very large portion of the correspondence is Irish?—There is a great deal of Irish correspondence, but nothing in comparison with what goes from Scotland and from Lancashire.

1343. You are not aware that the Irish correspondence is one-third of the whole?—I was not aware of that; but, if so, I should think that half of the rest would belong to Liverpool and the Liverpool district, Birmingham, and other places in the manufacturing district. It would cause a very serious disturbance of the present communications and of the exchange of letters, if the packet station were taken from Liverpool, which is the real centre of the correspondence.

1344. Are you aware whether there is any strong feeling in America for accelerating the communication by a few hours?—In America they would sacrifice anything to get a national superiority, if they could do it. That would be their object, and not a question of saving 12 or 24 hours. If they could by a bounty drive the British off the seas, I am satisfied that they would give it. I think they would sacrifice everything rather than give up what they hold so dear—a superiority over the mother country.—(*Mr. Maxwell.*) There is scarcely an instance of the steamers running to Southampton or Havre doing it so quickly as the Cunard's steamers do to Liverpool. I have no hesitation in saying that any measure that would remove from the English line of steamers the American commerce which now centres in Liverpool and that district, would be a positive bounty to an enormous extent thrown into the hands of the great

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George Maxwell, Esq.
Henry Cleaver Chapman, Esq.
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April 6, 1851:

rival maritime power, America. There is no question there is nothing that America would like to see better than the removal of the English line of steamers from Liverpool. Now the facilities are very great. A man arrives in Liverpool to embark by the packet. He arrives at his hotel; his connections and correspondents wish to see him at the last hour, and to say verbally what they have to communicate. Then he steps on board and he is off. But if he had to go with his hulky luggage to a distant port, it would be as much as to say to him, "You must arrange to go by Collins' line." It would never do.

1345. The argument of the Irish is, that they would land in Ireland and get to Liverpool as quickly, or more quickly than they do now?—People who are not much accustomed to the sea might be anxious to get ashore at the port first touched at; but, generally, I would say that the passengers would stick to the ship till they came to Liverpool.

1346. Whenever Cunard's boats arrive at half-ebb, do not you send a small steamer out?—(*Mr. Chapman.*) There is a tender attached to them for mails and passengers. In fact, there never was a service, in my opinion, so admirably conducted as that of Cunard's. It is quite perfect. I do not think that even in Her Majesty's service they could carry it out in the way they do; because there would be obstructions which Cunard's people have not to contend with. If they want a screw, for example, instead of having to make an indent, and going through a dozen departments, they go to their smithy and get it at once. Everything seems to be conducted with a degree of system, despatch, and liberality, that is quite astonishing. Nobody can have any idea of it until they see it. And to disturb it in any way, or to throw any damper upon it, would in a national point of view be a thing to be always regretted; I do not think the mischief could ever be retrieved.

1347. You said that when persons at Glasgow or Belfast wish to send certain articles of commerce rapidly over to America, they do not mind paying their 6*l.* or 7*l.* a ton for it, when, of course, they could send it much cheaper by sailing vessels. Then may it not be inferred that they would not mind a little extra expense for sending it through Ireland, if they would save a few hours by doing so: why should they not follow it up in the same way?—(*Mr. Maxwell.*) They might follow it up, but I think any additional land carriage would be a heavy tax on their goods.—(*Mr. Chapman.*) There would be transhipments in that case, but now it comes into the docks and alongside the vessel at once.

1348. But from Belfast they would send it over land to an Irish port?—(*Mr. Chapman.*) I think they would have to send from Belfast by steam to Dublin, and then to get upon the rail. Of course the Commissioners have more information upon that than we have; but, from our practical knowledge of the thing, we think that Government would hardly entertain such an idea for the sake of so very small a portion of the American trade as that which comes from the north of Ireland.

1349. You mentioned, as one great advantage of Liverpool, that the letters can be put in up to the very last moment; but is not that advantage only felt because the vessels start from Liverpool at variable hours, in consequence of the tide, and not at fixed hours, in consequence of which you feel it a great advantage to be able to continue to post letters when the vessel is detained till two, or three, or four o'clock?—(*Mr. Maxwell.*) The Cunard's steamers generally start, I think, very little later than 10 or 11 o'clock. Cunard's very seldom go in the afternoon. Collins's have generally gone in the afternoon.—(*Mr. Chapman.*) There is one thing also which ought not to be overlooked in this question, and that is the enormous amount of value involved in the cotton-trade, which exclusively centres in Liverpool. Now, consider the importance of that in a national point of view. A rebellion might break out on the Continent; that (to use a Yankee phrase) is flashed by telegraph; we might get intelligence of what had taken place just before the packet started; and it would give us an opportunity of sending orders, or countermanding orders, about cotton, and of saving our merchants or our manufacturers, perhaps, a million of money.

1350. Would not you save considerable time by being able to send a message by the electric telegraph to an Irish port?—(*Mr. Maxwell.*) But you must have a merchant there to do it. I have no agent that could do the same thing at an Irish port. I may effect a very important commercial operation at 10 o'clock in the day; the steamer starts at 11; if the station was at any port in Ireland, I should have no means of sending a short message to my correspondent in New York, as I do now by putting that communication at once into the vessel which is just leaving the port.

1351. If you had anything of an important and confidential nature to communicate at the last moment, would you not have the advantage of being able to send your letters in twelve hours' shorter time through Ireland than you can through Liverpool; would not that saving of time be of advantage to you in enabling you to prevent certain goods being sent to America, supposing you sent orders to that effect?—(*Mr. Chapman.*) In such a case so many would be rushing to the telegraph, that you must have—I do not know how many telegraphs at work. It is not one letter that has to be sent, but a great number of letters, to different correspondents all over the country. I am satisfied that, even laying aside the mercantile part of the question, and looking at the national interests involved in it, the removal of the station would be a matter of extremely great regret. First of all, all the goods would be transferred as a bounty to Collins's line; that is perfectly clear. Then as to passengers, I question whether any of them would take advantage of it. They take a great deal of luggage. They would have to disembark in the Irish port, to get into the railway, to transfer their luggage again on arriving at Kingstown or at Cork, and then to undergo a second voyage, worse almost than the one they have concluded. And considering all the inconvenience, expense, fatigue, bother, and anxiety they would have to undergo, I question whether any of them would take advantage of it.

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George Maxwell, Esq.
Henry Cleaver Chapman, Esq.
and
George James Duncan, Esq.

April 5, 1851.

1352. With regard to letters, would there not be advantage?—There would be the sorting and the transshipment; and, considering the official delays which there would be, I do not think you would save six hours in the whole thing.

1353. It is said that, as a national question, we have only to do with mails and intelligence, and that the question of passengers and freight is a matter merely of the saving or expenditure of money; but is it not a matter of importance to the passengers that they should have the advantage of quick and convenient conveyance?—I am of opinion that Liverpool is most convenient for passengers, taking it altogether, from its central situation.—(*Mr. Maxwell.*) A man going from Liverpool by an Irish port would have either to go by sea to Ireland or to cross the Mersey, and so to go by Chester and Holyhead. I am sure that in the case of a merchant and his family wishing to embark, he would certainly take advantage of the Collins line, which would take him on board at the quay, and take him off at once. People would never endure having half a dozen changes to go to America. I conceive that, as a matter of encouragement to British tonnage, it is a national question.

1354. You put the case chiefly upon the commercial advantage of having these steamers, which enable commercial men either to send goods or to travel themselves, in the most convenient way, rather than on the ground of general convenience as to postal arrangements, except that, if the passengers and freight were given up, our Government would, of course, have to pay a larger sum for the conveyance of the letters?—(*Mr. Chapman.*) Precisely; but both Mr. Maxwell and myself are of opinion that in postal arrangements we should suffer equally; that merely a tithe would be benefited, and that all the rest would be very materially inconvenienced, both in Scotland and in England.—(*Mr. Maxwell.*) That is my opinion.

1355. But supposing one-third of the letters are Irish, that third part of the correspondents would receive their letters earlier, and be able to despatch their answers later than they do at present?—Then against that you have to see what are the disadvantages. According to that statement it would be inconveniencing two-thirds for the benefit of one-third.

1356. But it is supposed that it would be an advantage to the remaining two-thirds, inasmuch as they would have a saving of time, though not to the same amount as the Irish portion of the correspondence?—I think the saving is more problematical than real. If it were to be pushed forward by express, it could be done, but we know that there are technical difficulties with the post-office. In order to have systematical and official regularity you must have a certain time to perform certain duties; unless you have proper time you get into confusion, and the great regularity of the post-office, I think, would be disturbed; there is a certain formality with which a Government office must be conducted.—(*Mr. Maxwell.*) With regard to the amount of the Irish correspondence, I confess I was a good deal surprised at its being stated to be one-third. I would take the liberty of stating that the Irish correspondence with America must, I think, be a correspondence of a very different quality from the Liverpool commercial correspondence. My own impression is, that what I would call the interests of commerce connected with the Irish correspondence is a mere fraction. No doubt there is a vast amount of letters passing between emigrants in America and their relatives in Ireland; but, having watched the American trade for thirty years, and seeing the enormous interests almost exclusively centred in Liverpool, including even Irish mercantile interests acted upon by Liverpool agency, I can scarcely conceive that with respect to the Irish correspondence generally the matter of rapidity can be of much consequence, and that a few hours' despatch with respect to the Irish correspondence should be considered in the same light as when applied to the vast interests centred in the great commercial emporium of Liverpool.—(*Mr. Chapman.*) Mr. Maxwell has just hit the difficulty that struck me; that the one-third of Irish letters is to be accounted for, not by mercantile transactions, but by the immense emigration. It was only yesterday that I heard a thing which perhaps will strike you as remarkable, that in one bank they have 100,000*l.* of bills which have been sent over by emigrants to their friends to take them out, varying in amount from 1*l.* to 3*l.*, 4*l.*, and 5*l.* But I know as a fact that even what goes through the banks is nothing compared with what comes through private hands. I have had to do lately with a line of packet-ships at Liverpool, and I saw a great deal of them. Instead of poor, famished, ragged people, going out as emigrants, you now see well-dressed men and women, with no sign of poverty about them; seemingly the better order of small tenant-farmers. The change which seems to have taken place is quite amazing.

1357. You, gentlemen, belong to Liverpool?—Yes.

1358. And you are connected with shipping?—(*Mr. Maxwell.*) I am a shipowner.

1359. Can you explain why it is that so many emigrants embark at Liverpool in preference to embarking in Ireland?—It is owing to the proximity of Liverpool, the great accommodation given to them, and the superior quality of the American vessels which sail from Liverpool.

1360. What is the reason that the emigrants do not take their departure from the Irish coast?—I think it is the want of freights from America. A vessel that brings over a cargo of cotton has no other place to land it but Liverpool.—(*Mr. Chapman.*) The passage from Ireland to Liverpool is so speedy and so cheap. I believe at one time they went for a shilling owing to the competition among the steamers, but they can always come over for half-a-crown or five shillings; and when they come they are certain of a passage; they find a ship ready to sail with a full complement, and away she goes.—(*Mr. Maxwell.*) The class of people that are now going are very curious in choosing their vessels, and you can see them gazing about to select the most likely one before they engage their passage. Now of course they can only do that at a port where there is a great amount of shipping.

1361. Is it not a fact that the emigrants are treated very badly at Liverpool?—(*Mr. Chapman.*) There is such an immense mass; we have thousands and thousands of people who leave the port of Liverpool, and who while they are there are at the mercy of crimps and lodging-house people. It cannot be otherwise; but the members of the American Cham-

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George Maxwell, Esq.
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April 6, 1851.

ber of Commerce are now endeavouring to promote a measure to remedy it, which the Corporation will not promote because, they say, it would injure the interests of the cottage-owners and lodging-house people. We came to seek aid and assistance from the Board of Trade and the Government in carrying this Bill to remedy the very evil complained of, but we did not get that sympathy which we expected, and which we thought we ought to have, when we are spending our own private means, fighting against the great Corporation Estate with 400,000*l.* a-year revenue.—(*Mr. Duncan.*) From the Board of Trade we have had every sympathy.

1362. What is the opinion of mercantile men as to the use of the electric telegraph; do you see any inconvenience in the application of it for the purpose of obtaining priority of intelligence, by reason of the advantages which some individuals may acquire over others?—(*Mr. Maxwell.*) I think it is a very important discovery, and very generally useful. I am not prepared to state any particular case which has come within my own observation.—(*Mr. Chapman.*) At Liverpool the Exchange Room subscribes so much to have the mercantile articles in the different newspapers telegraphed down, and posted publicly in the rooms.

1363. It has been stated to us, that in some branches of trade—for example, in the cotton trade—an hour's prior intelligence in certain cases is enough to make a man's fortune. Now, if the vessel landed at Galway, important intelligence might perhaps be sent by telegraph to a person at Manchester twenty-four hours sooner than it would be conveyed there by the ship—how could you meet that?—As the Americans say, such intelligence is important if true. That is the great thing—whether we can rely upon the intelligence. There are a lot of rascals that would give you false intelligence of rains, and frosts, and crops destroyed. But I can scarcely conceive the possibility of a house thinking it worth their while to send a person over expressly by the packet, and sending a message from Galway.

1364 Is the Holyhead telegraph now much used for commercial purposes?—(*Mr. Maxwell.*) Not at all. It will be discontinued, I think, immediately.—(*Mr. Chapman.*) It is still kept up at the expense of the Dock Estate. It gives a report of the ships all along the coast.

1365. It has been stated by the Chambers of Commerce of Glasgow and of Manchester, that they consider that the electric telegraph may be turned to injurious account; do you agree in that opinion?—(*Mr. Chapman.*) You cannot have a great benefit of any kind without some little drawback. The great question is, whether the advantages do not counterbalance those abuses which no precautions can prevent.

1366. If there is no counterbalancing disadvantage, of course the electric telegraph affords an argument in favour of an Irish port, because there would be a saving of 24 hours by the use of the electric telegraph, when it is laid down all the way?—(*Mr. Maxwell.*) It is not, in my opinion, sufficiently to be depended on for detailed general correspondence.—(*Mr. Chapman.*) I do not think that is a point of any importance either one way or the other.—(*Mr. Maxwell.*) Our argument upon the general question resolves itself into this, that we have had experience for a good many years of the eminent success of Cunard's line as established, and we want just to let well alone. The packets come in with the regularity almost of a mail coach, and everything is so admirably adapted to existing circumstances, that we should sincerely lament and highly deprecate any change, both on account of the interests of the great commercial emporium, which we consider ourselves to be, and on account of the important manufacturing country behind us, and Scotland, which participate with ourselves in the enormous trade carried on between the United States and Great Britain. We should sincerely deprecate any material change in a system which is working so admirably and has succeeded so well. I have no interest myself in any of these ships. My firm is extensively engaged as merchants in the trade with the United States and Canada, and also in the trade with Africa.

1367. Can you explain how it is that we have heard so little upon this subject from parties at Liverpool, Manchester, and Glasgow, although one of our first letters was addressed to the Chambers of Commerce of Liverpool, of Manchester, and of Glasgow, to beg them to furnish information to us on the subject of this inquiry?—(*Mr. Duncan.*) I only heard of it lately at the American Chamber of Commerce. I believe the fact to be that the idea of removing the packets from Liverpool, the great seat of commerce with America, never entered into their heads. They thought it impossible that such a thing ever could arise. That is what I have heard from all quarters within the last week. It was not supposed to be a thing that could be seriously entertained.—(*Mr. Maxwell.*) With respect to the General Chamber of Commerce, neither Mr. Chapman nor myself are members of it.—(*Mr. Chapman.*) The American Chamber of Commerce only heard of it recently.—(*Mr. Duncan.*) And last week the Corporation heard of it accidentally.—(*Chairman.*) I may as well state with regard to any supposed want of publicity, that questions were asked on the subject in Parliament: our meetings have always been noticed by the public prints; and we, ourselves, in the first instance addressed communications to the public bodies in all the large commercial towns of this country.—(*Mr. Maxwell.*) I will take the liberty of suggesting that it might be of importance that any communication such as your Lordship says has been addressed to the authorities in such a place as Liverpool, should be addressed to the mayor of the town, and by him distributed.—(*Mr. Duncan.*) Till within the last two years, when the Liverpool Chamber of Commerce was first established, the American Chamber of Commerce was the only one having the name of a chamber of commerce, and then we invariably received from the Board of Trade, and from all the public offices, communications which now go to the General Chamber of Commerce. But since that time we have not therefore had the same opportunities of learning what is going on as we had before.—(*Mr. Maxwell.*) I will take the liberty of referring to a rather important branch of the question, which probably will become still more important. I mean the transmission of gold-dust. I myself have received considerable quantities of Californian gold as matter of trade through the United States. That is of course a very valuable com-

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George Maxwell, Esq.
Henry Cleaver Chapman, Esq.
and
George James Duncan, Esq.

April 5, 1851.

modity, and if these steamers were to touch at the wilds of Connemara, I do not think it would be quite so safe as it would be in Liverpool. That is a consideration which should not be lost sight of. You are aware that gold has its chief centre in the metropolis. Gold arriving in Liverpool is transmitted to London. This of course is done at some expense by the railway. Of course the greater the distance of land carriage, and the more transhipment there were, the more the expense would be increased.—(*Mr. Chapman.*) If the steamers were removed from Liverpool and sent to Ireland, all that would be sent by the American steamers, and there would be good-bye to our British steamers.

1368. With regard to the American rivalry, it is, we presume, only the ordinary rivalry between commercial bodies—there is nothing unreasonable or unfair in it?—Nothing at all. —(*Mr. Duncan.*) There is a most honourable rivalry between the two companies—it so happens that I am solicitor to both.—(*Mr. Maxwell.*) Collins's line is entirely American capital. We maintain this, that if you make any change, you give a preference to Collins's line over Cunard's.—(*Mr. Duncan.*) As to the value that commercial men put upon the very latest intelligence being sent, I have myself observed that a very large proportion of the correspondence (I mean large considering the increase of expense which is incurred by it) is posted at the landing-stage at the extra-expense of a shilling a letter; and I would suggest that if a return could be obtained of the number of letters which are posted in that way, it would be ascertained to be considerable.

1369. You refer to it as showing the importance attached to taking the last moment?—To show the value that commercial men put upon being able to take advantage of the last moment of transmitting intelligence.

1370. But if greater speed were obtained, you would have a later hour to write it; and instead of writing at 12 o'clock on Saturday morning, you would be able to write it at 7 o'clock on Saturday night?—But it is of great importance in such a case as that, whether the steamer departs from the seat of commerce, or from a port distant from the seat of commerce. It is very true that a commercial man would have a day extra to write his letters, but still the last moment is the time that he avails himself of to convey the latest intelligence.

1371. But the last moment then would be the time of departure of the post to the packet station?—(*Mr. Chapman.*) As far as these steamers are concerned, if they were removed even to Southampton or to Falmouth, it would be fatal to the steam supremacy, which I hold that we have at the present moment.

[*The Deputation withdrew.*]

[Adjourned.]

MONDAY, 14th April, 1851.

The Right Hon. Earl GRANVILLE in the Chair.

Mr. John Thomas.

April 14, 1851.

Mr. John Thomas, Master in the Royal Navy, examined.

1372. How many years have you been a master in the Royal Navy?—Acting and confirmed 27 years.

1373. Have you ever served as master on the coast of Ireland?—Yes.

1374. How many years?—Two years.

1375. Do you consider that you are a pilot for the coast of Ireland?—Yes.

1376. On both sides?—Yes.

1377. Have you ever been in Galway?—Yes, frequently.

1378. Did you ever run for that port in a gale of wind?—Never.

1379. You have only been two years on the west coast of Ireland?—I have only been two years master, but I have been many years on the coast.

1380. In what capacity?—I served my time on the coast.

1381. As pilot?—I have been pilot there, but I have been a sailor there as well as that.

1382. Will you state what you know of that part of the coast of Ireland, as to its safety of approach, about Galway Bay, for instance?—The danger to be avoided in running for Galway Bay is Malbay.

1383. For large steamers drawing 19½ feet water of 700 or 800-horse power?—The best plan would be to run for the north end of Arran.

1384. What is the width of the channel between the north end of Arran and the main?—Slyne Head is an open passage; I forget the exact distance. The lights on Slyne Head are placed there (there are two) to avoid the Skird rocks.

1385. Are there any lights on Arran Island?—Yes, one.

1386. Is that high?—It was when I was there, too high, much too high.

1387. For what reason?—Because it is obscure in a fog.

1388. When it was obscured by fog, could you see the land below it?—Yes, clearly.

1389. Are fogs common there?—Very much so.

1390. Dense fogs?—Yes, generally the second day.

1391. Have you ever seen the fog so thick about Galway Bay that you would be afraid to run for it?—I have frequently; hence the necessity of running the first day for the land. After the second day, it becomes almost impossible to run with safety.

1392. How long do those fogs generally last?—They generally last for a week or ten days.

1393. Is there any shoal water in Galway Bay that makes it dangerous to enter?—There is no danger in Galway Bay itself. It is in making the land that there is danger.

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Mr. John Thomas.

April 14, 1851.

1394. Is there more than one passage through those islands?—Yes, they are passable on both sides; but the north is generally used.

1395. What is the width of the passage?—It is not very wide from Slyne Head to the Islands of Arran.

1396. Have you seen the water break very heavily about Galway Bay in a gale of wind?—No, I never did; it is too deep outside to break. There is a long roll of the sea such as there is in the Bay of Biscay.

1397. Is there much difference in the smoothness of the water outside and inside of the Arran Islands?—Not a great deal. The Arran Islands cover the Bay completely.

1398. Is there smooth water all the way up to Galway?—Yes.

1399. What kind of anchorage is there?—The anchorage in Galway is very good. The shelter is Mutton Island.

1400. What water have you there?—Close to Mutton Island there are about four fathoms and a half, and the ground is tough.

1401. Do you think that you could find safe anchorage for a large steamer drawing 19½ feet water there?—Yes. And I think it is safe in this way, by mooring them with moorings with three arms on the east and west, and on the south.

1402. Were you ever trading there in a heavy gale of wind?—Yes, very heavy.

1403. Was there much sea?—There was a good deal of ground swell coming in with the wind from the south-west. There is a long beach.

1404. Does the wind from that quarter cause a heavy swell?—It causes a ground swell; yet I consider it safe.

1405. Have you any knowledge of the soundings outside of Arran Islands?—None whatever.

1406. Would they be of much service to you?—No.

1407. Do you know what soundings you would have inside?—I cannot say that I do.

1408. Is there any danger in taking the anchorage before them?—None but the Marguerita Shoal and the Black Rock.

1409. Have you ever been much in the Shannon?—A good deal.

1410. Would you rather take Galway Bay in a gale of wind than the Shannon?—I should prefer Galway Bay.

1411. For what reason?—There is more scope to make the land. There is a better way of making the Islands of Arran than making the narrow point of Loop Head.

1412. In running into the Arran Islands, have you less sea, do you think, than you would have in taking the Shannon?—No, I do not think there would be less sea. I think, having the islands passable on both sides, it would be safer.

1413 Upon a spring ebb tide, would there not be a very heavy sea at the mouth of the Shannon?—I never observed a very heavy sea there, and I have been there in bad weather.

1414. Not even upon a weather tack?—I should say not; nothing to affect a large ship of that sort.

1415. Were you ever in the harbour of Valentia?—Frequently.

1416. What kind of harbour is that?—A very small harbour, and quite unfit for those ships.

1417. Is the entrance narrow?—Yes, both sides of it.

1418. And, in a heavy gale of wind, does the sea break violently?—Quite across, I speak of the north entrance; and the west, the shallow entrance, the sea breaks across when blowing hard from the north-west.

1419. When it was blowing fresh from the south-west, when you were lying in Galway Bay, could you land in safety at all times of the tide?—Yes, you can land.

1420. At all times of the tide?—Yes.

1421. Although there was a good deal of swell?—Yes, you can land anywhere.

1422. If ladies were in a boat, would it be safe to land them?—Yes, quite safe.

1423. Without getting wet?—I do not think they would get wet.

1424. Towards high-water, when the water flows over this kind of causeway that joins Mutton Island to the main, there would be difficulty in landing then, would there not?—None at all; you go within that to the little pier of Galway. I believe that has been improved since I was there.

1425. If it was blowing a heavy gale of wind from the westward, and the great Atlantic seas running, would you consider it safe to heave one of those heavy steamers to for soundings?—Quite safe.

1426. To round her to?—Yes; I have made 18 voyages in steamers across the Atlantic.

1427. Into Galway Bay?—No, into Bristol; I think they are perfectly safe in any way.

1428. Is there a heavier sea on the west coast of Ireland than in running along the south coast of Ireland?—Much heavier.

1429. But you think that there would be no difficulty in heaving a large steamer to for deep-water soundings?—None whatever.

1430. You would then lay her broadside on to it; would there be no difficulty?—None whatever; give her some of the after sail.

1431. Have you ever commanded a steamer?—Never; I was in the Great Western 18 voyages as mathematical instructor.

1432. Did you ever heave to, for soundings, in her when running for Bristol;—Yes, and frequently in making the coast of America.

1433. Did you bring her to right round, or edge her round so as to gain soundings very easy?—We brought her round-to.

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1434. Was there a heavy sea at that time?—Not always; we brought her to on all occasions.

1435. In coming across the Atlantic have you ever seen so heavy a sea that it would not be safe to bring a vessel to the wind if she was running before a gale; or have you ever seen such a sea that it would require great caution in attempting to bring a vessel with her bows to it?—I have seen that at sea frequently, and it would require all that caution.

1436. Still you do not consider that there is any danger?—None whatever.

1437. Would you rather run for the port of Galway than run up by Cape Clear towards Bristol?—I would rather run up by Cape Clear; I think it much more safe.

1438. In a heavy gale of wind, in thick weather, do you think it would be safe to run for any of those ports on the western coast of Ireland?—Yes, in this way: in running for the Shannon I would make the land to the westward, in or about Bandon Head; then I should be perfectly safe.

1439. After making the land?—Yes.

1440. Would there not be a good deal of danger in making the land in thick weather?—I think not, if I had observed the day before.

1441. If you were running for Galway, the same observation would apply, would it not?—Not quite; I would then have to make the north end of Arran to avoid Malhay, because that Malhay is full of broken water and dangerous.

1442. What kind of coast is there to the northward of the Arran Islands?—It is much better to steer for the north end.

1443. Is the course to the northward between that and Slyne Head dangerous?—No, not between those points, further north it is—where the Skird Rocks are; they are 10 miles off.

1444. They lie between Slyne Head and the north end of Arran Island, do they not?—No, they are to the north of Slyne Head. The lights are placed there.

1445. Upon Slyne Head?—Yes; I made that suggestion 27 years ago.

1446. You do not recollect whether those rocks are to the northward or southward of Slyne Head?—I perfectly recollect that they are in a line with both lights at the north of that head. The Skird Rocks are 10 miles from the land.

1447. In coming across from America in the Great Western, have you ever been several days before making the land, without an observation?—Yes.

1448. If you had been running for the port of Galway, do you consider that it would have been prudent to run for it, in thick weather, not having made an observation for some days before?—I should say that it would not be as prudent as running for Cape Clear; I should be a good deal more doubtful.

1449. For what reason?—For example: suppose we are ahead in our reckoning, the land eastward of Cape Clear is bold, and no danger could accrue in making it; but the same evil existing in running for the port of Galway would be productive probably of far greater evil.

1450. If you did run your distance, running for Cape Clear, and not making the land, what would you do?—Haul in and make the land eastward of it.

1451. Supposing it was so thick that you could not see half-a-mile ahead, what would you do?—Then it is quite safe to make the land.

1452. Not knowing where you were?—Certainly I should know where I was.

1453. Not if you had had no observation for two or three days?—I would steer along the land.

1454. In running along that south coast of Ireland, would a light be of great service to you?—Yes, there it would.

1455. Therefore you would try for soundings?—Yes, and more particularly in making land to the west; there is a bank called "The Bank."

1456. What water would you have upon it?—About 35 fathoms.

1457. To the westward of Cape Clear?—Yes, to the westward of the Bull Rock; that is to the westward of Cape Clear.

1458. You would be very close in at 35 fathoms, would you not?—No, you would not on that bank.

1459. You say that the Skird Rocks are to the northward of Slyne Head: just look at that chart [*the same being handed to the witness*]?—I meant to say that they were to the southward.

1460. You say that you have never seen the sea breaking under that coast of Ireland in deep water?—Never.

1461. Have you ever been in Liverpool?—Yes.

1462. Do you think there is much danger in running up from Cape Clear to Liverpool in thick weather, with your soundings in the Channel?—The first place you have to make there is the Saltees running up Channel.

[*The Witness withdrew.*]

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APPENDIX III.

Official Information, Letters, Returns, &c.

LETTERS FROM THE COMMISSIONERS, REQUESTING INFORMATION, AND REPLIES THERETO, ALSO TABLES, OFFICIAL RETURNS, &c.

Queries.

1. The Chamber of Commerce at Southampton are no doubt aware that an inquiry is now making by this Commission into the propriety of establishing Government Transatlantic Packet Stations on some port on the west of Ireland. The statements in favour of an Irish port chiefly refer to the North American lines; but they also claim advantages for the intercourse to the West Indies, by reason of the shorter voyage as compared with Southampton. The following are the relative distances given by the Hydrographer to the Admiralty:—

	Nautical Miles.
Southampton Wharf to St. Thomas's Harbour	3,587
Cork (Monkstown) to ditto	3,337
Berehaven (Menane Point) to ditto	3,282
Crookhaven (Rock Island Light) to ditto	3,277
Galway (with Mutton Light W. N.W. ½ mile) to ditto	3,334

The Commissioners request the favour of the opinion of the Chamber of Commerce at Southampton, whether they consider that the public interests would be benefited in any essential degree by establishing mail packet stations at a western port in Ireland?

2. Whether the saving of some hours in the communication would be likely to draw any number of passengers or select packages for freight to that line, in preference to the vessels that would leave Southampton and Liverpool?

3. Whether they could form an opinion of the value of such a saving in time in the conveyance of the mails, and as much as perhaps nearly a day in the case of the North American lines, in intelligence to be communicated by electric telegraph?

4. Among the advantages claimed for a station on the west of Ireland, is that of avoiding the inconveniences, delays, and dangers of the navigation of the British or Irish channels?

5. The Commissioners would be glad to be informed what is practically the amount of this disadvantage, and how far the insurance is affected by it?

Replies.

1. The Chamber of Commerce at Southampton beg respectfully to submit, that the public interests would be much damaged by such an arrangement. It would occasion the necessity of a largely increased payment for the steamers now employed to convey the mails. At present the remuneration to a great extent arises from the conveyance of goods and passengers, to which is added the amount paid by the Government: the latter, though a considerable sum, will be utterly inadequate without the former.

If the steamers were removed to any port on the west coast of Ireland, say Galway, they would get no goods outwards nor homewards. Goods would not be sent by railway to Holyhead—thence by steamer to Dublin, and by rail to Galway, except at a great expense and additional risk.

The goods shipped by steamers are those of the most valuable description; large portions made, finished, or packed in London. No rapidity of conveyance, even greatly exceeding that imagined, could compensate for the increased expense that shipment at Galway would produce. The same with goods homewards, principally of the most valuable kind, and largely for the London market; again subject to the same additional railway and steam transit to reach England. It should be remembered that the West India steamers now bring large quantities of dollars, and will in future frequently bring two or three millions, which would have to be landed at Galway, thence per rail to Dublin—by steamer to Holyhead, and thence by rail to the Bank of England, being a large increase of land risk, and a new and more dangerous description of sea risk.

Passengers now travel to and from London and Southampton—80 miles—by railway with their families and luggages, and there is no inconvenience; and bullion is placed into the railway carriages at the packet side in the docks, and conveyed to London with the smallest possible amount of risk. The proposed alteration would involve at least three changes of conveyance, and put the travelling public to a vast amount of annoyance, besides the expense of some hundred of miles of additional distance, whilst there is no reason to suppose, that with the more costly management, and increased expenses of a sailing port at so great a distance from London, Liverpool, or Southampton, that any

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deduction in passage money would be possible, and the only compensation would be the possible saving on a long voyage of 12 to 24 hours to Galway, with the expense and inconveniences referred to yet to be encountered.

The effect of the removal of the packets from Southampton would in a little time lead to the establishment of new lines from that port, of either screw or paddle-wheel steamers, which would deprive the mail packets going from Galway of both goods and passengers; and the cost of carrying the mails would again fall on the public purse, as in the old days of the Falmouth packets.

The result will be the same at Liverpool if the North American packets should be removed to Galway; the steamers owned in the United States, or a new line from Liverpool, would carry all the goods and passengers hitherto shipped by Cunard's line, and those from Galway would have to be supported by the Government alone. It is respectfully submitted that these are facts which no mercantile man can controvert.

The circumstance of the North American mail steamers being despatched from Liverpool at an inconvenient distance from London, and an objectionable position in reference to the Continent, has induced the establishment already of foreign lines of first-class steamers, both from Havre and Southampton.

2. Not at all; the inconvenience of the arrangement would entirely prevent it; but even if otherwise, in some rare instance the new arrangements, sure to take place in establishing new lines, would be conclusive.

3. There might be a saving of 12 to 24 hours in arriving at Galway, but against that would have to be placed the time lost in rail to Dublin, steam to Holyhead, and rail again through England, which it is confidently believed would exceed the time saved in arrival; whilst the intelligence by electric telegraph would be much retarded in conveyance by steamer across channel, and especially if that steamer was not always kept waiting, at a great expense, for the uncertain arrival of the packet, the success of a submarine telegraph being yet problematical. It is questionable whether the telegraph communications under any circumstances is so very important, except to speculators or on some rare occasions, and would necessarily involve great additional expense in transmission, and where secrecy was required, be far less protected; it is very probable that, in proportion to the advantage to the speculator is the damage to the public.

It is submitted, that no probable saving in time will compensate for the disadvantage of mail packets arriving at Galway, or any other port distant from London and the seat of Government. It is very undesirable that important news, especially as affecting foreign policy on events connected with nations, with whom we may have some difference or dispute, should reach any portion of the United Kingdom some hours before known to the Government, and in any possible commotion in Ireland or England, the occurrence might be most objectionable.

4. It may be observed, that the departure from and approach to the west coast of Ireland in the winter season is frequently unsafe: for the greater portion of the year it is a lee shore, from the prevalence of westerly winds, and receives the heavy swell from the whole Atlantic, whilst it is notoriously subject to thick and hazy weather, and does not possess the important advantages of gradually reduced soundings approaching the shore, found so valuable in the British channel, where it is well known that the large mail steamers frequently run up as far as the Wight by soundings alone, and their detention even for an hour by thick weather has been of a very rare character.

Vessels are more liable to delays and danger in the Irish channel than in the British, where casualties are almost unknown, if vessels do not pass the Wight, unless in a gale of wind amounting to a hurricane, in which no vessel is safe.

The Chamber is quite aware that in the Irish Channel, after a long continuance of easterly winds, thick weather ensues, and loss and collisions very much increase; and in the crowded tract to and from Liverpool (the change of wind releasing vessels hitherto detained), the risk is much greater. The Chamber is endeavouring to obtain from documents at Lloyd's, in order to append to this statement, an account of the casualties and collisions in respect to vessels approaching Liverpool, which it is confidently believed very far exceeds any amount of damage in the English Channel, as far as the Isle of Wight; indeed, vessels running up the English Channel make a comparatively mid-passage, whilst the mail steamers outwards hug the land, rendering the risk in comparison proportionately smaller.

5. Insurance is generally made to a port in the United Kingdom; but if there be any difference, underwriters would prefer Southampton to the west coast of Ireland, and in the latter case, an additional risk would have to be insured in the passage from Ireland to England; this new premium would increase the insurance one-sixth. With regard to the advantages which Southampton has over every other port in the United Kingdom, as a packet station or as a port for trade, they are so numerous and so self-evident as scarcely to depend on opinion, the Chamber will state them as facts, and believes it is unnecessary to argue upon them.

The depth of water from Calshot Castle to the docks is ample for merchant ships, and steamers of the largest size; a man-of-war of the heaviest construction can lie at anchor in the river at all times of tide. The open dock of the Southampton Dock Company has an entrance of 150 feet in width without gates; the largest steamers can always steam into the great tidal basin of 16 acres without danger, and lie there with perfect safety, as may be instanced in the cases of the "Hermann," "Franklin," "Washington," and other New York steamers drawing 22 feet water, as well as the large Oriental and West India mail packets. There are 4,000 feet of quay line now complete, and in active use, and a new dock of 11 acres, that will be ready in a few months.

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Official Information, Letters, Returns, &c.

The peculiarity of the situation of Southampton River gives a stationary period of high water from two and a half to three hours, and only three and a half hours' ebb, both of great importance in the movement of all vessels, and there is neither rock nor bank in the river, nor any source of injury to vessels, even if by any accident they touch.

Southampton is placed in the centre of the south of England, and when the intended junction is completed of the South Western with the North Western, at Willesden, an almost simultaneous delivery of letters may be effected from Southampton all over England; and the distance from London, the seat of Government and metropolis of the world, being *viâ* Southampton nearer to the undermentioned principal places than by way of Liverpool as follows:—

New York	90	miles nearer.
Havre	210	"
Gibraltar. Madeira, Brazils and the Cape . .	280	"
St. Thomas	190	"

Whilst in all these cases, excepting as to New York, which has perhaps 40 miles in favour of Liverpool, the actual sea distances are all in favour of Southamptom, hut with the important consideration, that the approaches to Liverpool are dangereus, and calculated to retard the mails; and a further detention frequently occurs by waiting the rise of tide to pass the har, a difficulty that will become more serious when the present valuahle increase in the size of steamers is more generally adopted.

The communication between Southampton and London by railway, and electric telegraph is most facile and convenient, the shortness of the line and singleness of management admits of frequent special trains without risk or danger, and by an arrangment of electric telegraph, and day and nigbt signals, now forming at Lymington, two to three hours' earlier notice will invariably be given of the arrival of foreign mail steamers, and a train for mails and passengers at all times waiting, if the ordinary trains have been despatched.

In case of war, Southampton may be regarded almost as a portion of the arsenal of Portsmouth, the large steamers would be concentrated in the docks, and be fitted and armed forthwith, a convenience of locality to a naval arsenal not possessed by Galway or Liverpool, and the steamers so fitted and armed would be in the best possible position for effective service, without being detached to a distant port for the purpose of defence, conveying troops, &c.

Southampton is becoming extensively the concentration of the receipt of mails, passengers, and goods from the north of Europe, from Germany, Belgium, Holland, Switzerland, France, and partially from Spain and Portugal, and for India and China, English and foreign, West Indies, United States, Brazils, west coast of South America, Mexico, and California, and the removal of these packets hence would probably lead to these connexions being transferred to Havre, which now carries on its trade with the United States, partly by a direct steam line and partly through Southampton, by the American Ocean Steam Navigation Company.

Southampton has the most perfect means of building or repairing ships and steamers—most extensive engineering establishments and graving-docks, capable of receiving the largest steamers hitherto constructed.

The convenience of access to the ports and docks: and to set at rest any question as to depth of water, there is appended hereto the certificate of the commanders of various steamers, and whose testimony cannot possibly be open to the influence of local interest, or any particular bias towards the port, whilst its date indicates that it was not prepared for this special occasion.

The Chamber desires to submit that the advocates in favour of Galway treat the line of communication as if then and there ended; but when the mails, &c. are landed, there is yet upwards of 400 miles to reach London, and many of the principal towns in England, and 250 miles to the nearest commercial town in England, with another sea voyage in each case; added to this, there is the chance of robbery, loss, accident, or detention, to mails, passengers, or bullion, both in crossing Ireland and the Irish sea, and it should be borne in mind that these occurrences are more likely to take place in shifting from vessel to train and from train to vessel over and over again, even where they are in juxta position (which may not be the case throughout). The Chamber is informed that the post office distance to Galway, in time, is at least 36 hours, and will probably not be reduced by railway accommodation helow 24, on which latter time the within calculations have been made, but on the supposition that the expense will be incurred of always keeping steamers ready to cross the Channel.

There is attached to these statements a printed paper on the subject of Plymouth as a packet station contrasted with Southampton, and as it contains a number of facts in reference to the inquiry, and is believed to he substantially correct, it is respectfully submitted to the attention of the Commission.

The Chamber of Commerce at Southampton desires to express its sincere thanks for the opportunity of placing this statment before the Transatlantic Packet Commission, and respectfully calls attention to the superior position of the port to be in all respects the packet station of England from the safety of approach to it, and safety within it; its proximity to London, readiness of access from all parts of England, eminently well-suited position for continental goods and passengers, its affording the shortest route to and from London on all the great packet lines, and for Government purposes, hulk of passengers, safety of bullion, and general convenience, without a rival, giving with these advantages

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such facilities to foreigners as will best deter the extension or establishment of other lines by their own countries and other Governments.

Office of Public Works, Dublin, January 25, 1851.

My Lord,

I have received a letter from the Hon. Stephen S. Rice, requesting I would communicate officially with your Lordship on the subject of the capability of Foynes harbour and pier, in reply to the first query contained in the Schedule of Queries 16.

I have the honour to enclose herewith a report from Mr. Barry Gibbons, the harbour engineer of the Board of Public Works, made to me, which contains the information required.

I have, &c.,

To Lord Hobart, &c. &c.

Richard Griffith.

Harbour Engineer's Office, Public Works, January 25, 1851.

Sir,

Agreeably to your directions that I should officially report (with reference to the query of the Transatlantic Packet Commissioners, transmitted by the Hon. Stephen Rice) upon the accommodation for vessels at Foynes, I have the honour to state that the harbour of Foynes affords ample depth of water for the largest ships in the royal navy, drawing upwards of 19½ feet, with the utmost facility of access day or night, and complete shelter, being masked on all sides by high lands. Adjoining the harbour of Foynes a most substantial pier, formed with heavy dressed ashlar, has been lately completed, having 456 lineal feet of wharfage, besides an inclined plane 240 feet in length. Alongside the wharf and pierhead the depth of water will be, at low water, 10 feet, with 16 feet rise of tide, and the bottom consists of a soft alluvial deposit; but the water deepens so quickly outside the pier-head that a small piled-and-framed jetty in extension of it would enable vessels drawing 24 feet water to come alongside at the lowest tide. The cost of this, executed in the best manner, would be under 1000*l*. The pier is sufficiently wide to admit of the railway carriages coming alongside a steamer at the jetty head.

I have, &c.,

R. Griffith, Esq., Chairman, Board of Public Works.

Barry D. Gibbons, *Harbour Engineer.*

Board of Trade, January 27, 1851.

Sir,

I am directed by the Transatlantic Packet Station Commissioners to request that you will furnish them with a table in continuation of and constructed on the same principle as that which they have already received from you, showing the distances, measured on the great circle—

1. From Liverpool to Halifax and New York, round the north of Ireland.
2. From Holyhead to Halifax and New York, round the north of Ireland.

I have, &c.,

Admiral Sir James Beaufort, K.C.B., &c. &c. &c. Admiralty.

(Signed) Hobart.

Hydrographic Office, Admiralty, January 28, 1851.

My Lord,

In compliance with the desire of the Transatlantic Committee, conveyed to me in your letter of yesterday, I have the honour of stating the several distances as follows:—

Great Circle and Mercator combined, round the North of Ireland, in Nautical Miles.

From	To Halifax Pier	To New York, Jersey, City Pier.
Liverpool (Fonorby floating light)	2,433	2,980
Holyead (Pier)	2,408	2,955

I have, &c.,

Secretary to the Transatlantic Packet Station Commissioners, Board of Trade.

F. Beaufort, *Hydrographer.*

Royal Mail Steam Packet Company, No. 55, Moorgate street, London, February 8, 1851.

My Lord,

In compliance with your Lordship's request, conveyed in your letter of the 5th inst., I have the honour to enclose herewith one copy of the last published yearly account of this Company.

I have, &c.,

The Lord Hobart, &c., &c., Board of Trade.

E. Chappell, *Secretary.*

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Dr. *Working Account* *Cr*

DISBURSEMENTS	1848 £. s. d.	1849 £. s. d.	RECEIPTS.	1848 £. s. d.	1849 £. s. d.
Coals, Freight, and all Charges	74,305 8 11	77,042 14 5	Government Contract	240,000 0 0	240,000 0 0
Wages	46,856 10 0	44,504 0 0	Freight—		
Provisions	63,956 18 0	61,446 5 4	Outward	19,567 5 4	19,785 3 1
Stores	14,059 20 4	13,808 3 4	Intercolonial	4,750 16 4 } 58,133 0 0	4,903 14 11 } 72,290 14 0
Port Charges and Pilotage	6,458 10 0	8,072 8 0	Homeward	38,876 0 0	64,606 16 0
General Salaries and Stations	15,738 10 0	14,423 0 0	Passage Money—		
Coal Sacks, &c	624 1 11	476 12 10	Outward	50,182 0 11	48,360 7 9
Office and Law Expenses	1,679 10 0	1,774 10 5	Intercolonial	20,782 6 1 } 124,279 16 3	33,806 2 1 } 116,388 11 4
Salaries at London and Southampton	11,141 10 0	11,430 10 0	Homeward	46 314 16 3	33,757 1 0
Insurance	23,000 0 0	23,000 0 0			
Repairs of Ships and Machinery	41,158 13 5	41,958 10 11			
Surplus	307,821 11 0 / 113,201 1 0	298,326 3 9 / 129,329 2 9			
£	422,022 12 3	428,256 5 6		£422,413 12 3	£428,286 5 6

Dr *Profit and Loss Account* *Cr*

	£. s. d.		£. s. d.
To Dividend, declared 12th April, 1849	29,250 0 0	By Balance from 1848	55,092 17 8
To Income Tax for 1848	1,325 6 4		
To Balance transferred to the credit of General Reserve Fund	24,627 9 1		
	55,202 17 5		55,092 17 8
To Amount written off value of London and Southampton Premises, Jamaica Wharf, and Pacific Treasure Houses	639 0 3	By Surplus of Working Account for 1849	128,326 2 9
To excess of original cost and outfit of ship "Forth" (lost 14th January, 1849) over the amount charged to Insurance Account	11,073 0 3	By Interest	3,290 0 3
To loss on sale of "Sanderling" £9,700 1 8			
" "Princess Victoria" 600 0 0	10,300 1 8		
To extraordinary outlay on "Medway" and "Eagle, viz.—			
New Boilers, Fitting, &c. 13,021 1 9			
Repairs in Hulls 12,111 8 0	25,132 9 9		
To Profit on the Year viz.—			
Dividend declared 11th October 29,688 0 0			
Balance in favour of Company 57,583 2 0	87,263 2 0		
£	135,210 3 0	£	135,210 3 0

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Statement of Accounts of the Royal Mail Steam Packet Company, for the Year 1849—*continued*

Balance Sheet, 31st December, 1849

Dr	£ s d	£ s d		£ s d	*Cr* £ s d
To Cost and Outfit of Steam Ships, &c.—			By Capital Stock		889,125 0 0
£	s d		By Dividends unpaid		3,700 11 1
31st December, 1848 818,853 12 2					
Deduct "Forth" lost £61,973 2 3			By Reserve Fund—		
" "Belaidere," sold 15,470 7 11			£	s d	
" "Princess Victoria," sold 300 0 3			Insurance Account	48,948 16 6	
78,243 10 2		740,607 2 0	General Reserve Fund	122,919 10 10	171,868 13 4
To Advances on Account of "Derwent" and "Esk"		24,043 3 4			
To Stock of Coals, Coal-sacks, &c.		37,378 19 5			
To Stock of Boilers, Engineers' and other Stores		24,488 12 3			
To London and Southampton Premises, Jamaica Wharf, and Pacific Treasure Houses		3,490 18 3	By Bills payable and Outstanding Accounts		17,929 14 4
			By Profit and Loss		57,583 2 6
To Investments —					
£ s d					
143,201 14 3—3½ per Cent. Stock					
28,013 4 0—3 per Cent Consols		173,281 5 0			
20,000 0 0 London and North Western Railway Debentures					
To Ships' pending Voyages		13 090 10 11			
To Bills receivable and Cash Balances		57,920 12 4			
To Contract Money due this day		60,000 0 0			
£		1,140,207 1 3		£	1,140,207 1 3

We have examined the foregoing Balance Sheet, and compared the items it comprises with the several books and vouchers relating thereto, and have found the same to be correct.

A G Roberts.
W G H. Welsh

H 2

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Official Information, Letters, Returns, &c.

SIR, *Board of Trade, February* 10, 1851.

I AM directed by the Transatlantic Packet Station Commissioners, to request that you will move the Lords Commissioners of the Admiralty to furnish them with information as to the time at which it may be expected that the New Western Pier at Holyhead will be sufficiently advanced to afford perfect shelter for a temporary timber jetty, alongside of which a large steamer, drawing 20 feet water, could lie at all times of tide.

I have, &c.,

Capt. W. A. B. Hamilton, R.N., &c., &c., Admiralty. (Signed) HOBART.

GENTLEMEN, *Admiralty, February* 18, 1851.

WITH reference to Lord Hobart's letter of the 10th instant, requesting to be informed as to the time at which it may be expected that the New Pier at Holyhead will be sufficiently advanced to afford perfect shelter for a temporary jetty, alongside of which a large steamer drawing 20 feet water could lie at all times of tide, I am commanded by my Lords Commissioners of the Admiralty to acquaint you, that the said pier will be sufficiently advanced to afford shelter for such steamers, from all the exposed points, by the end of this year.

I have, &c.,

The Transatlantic Packet Station Commissioners, Board of Trade. W. A. B. HAMILTON.

SIR, *Board of Trade, February* 13, 1851.

I AM directed to request that you will favour the Commissioners, at your earliest convenience, with any information which you are able to furnish respecting the means or conveniences for the reception and repair of steamers possessed by any port of which the Board of Works in Dublin have official knowledge; as, for instance, the capacity of the docks or wharfs, their depth of water at different times of tide, and the accommodation afforded at their entrances; and also as to the advances of public money which have been made for the improvement of such ports, the extent to which those sums have been spent, and how far repayments of them have been made.

I have, &c.,

R. Griffith, Esq., Board of Works, Dublin. HOBART.

MY LORD, *Office of Public Works, March* 4, 1851.

IN reply to your Lordship's letter of the 13th ultimo, I have to state that the only ports possessing "the means and conveniences for the reception and repair of steamers of which the Board of Works have official knowledge" are Limerick and Galway.

Limerick.—There is a patent slip and dockyard at Limerick; but I am not aware of its capabilities. At the present wharfage, which is nearly a mile in length, the vessels take the ground at low water; but there is a new dock in progress of execution which will have an—

Area of	7½ acres
Wharfage	2,300 feet
Entrance	50 „

Depth of water on sill:—

	Ft.	In.
Low water springs	4	10
„ neaps	8	3
High-water springs	23	7
„ neaps	17	8

Water in the dock will never be less than 18 feet; estimated cost 50,000*l.*
There has been advanced for the improvement of the

	£.	s.	d.
Port and harbour of Limerick	175,384	0	0
Expended	147,934	0	0
Repaid principal	5,722	13	7
„ interest	45,179	0	0

The payments in the last four years have been:—

	£.
1847	11,621
1848	7,868
1849	8,364
1850	6,836

Galway.—Galway possesses a floating-dock, having an—

Area of	6 acres.
Entrance	56 feet.

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Water on sill:—

	Ft.	In.
Low-water springs . . .	2	0
„ neaps . . .	7	0
High-water springs . . .	19	6
„ neaps . . .	14	9

There is no graving-dock or patent-slip at Galway, nor any appliances for the repairs of steamers beyond the existence of an iron-foundry and workshops.

There has been advanced for the improvement of the port of Galway a—

	£.
Sum of . . .	24,000
Expended . . .	24,000
Repaid principal . .	4,441
„ interest . .	10,251

Repayments in the last four years have been:—

	£.
1847 . .	1,909
1848 . .	1,925
1849 . .	2,622
1850 . .	2,258

The Board of Works possess no official knowledge with regard to Cork; but I am aware that there are no floating-docks; but there is a patent-slip, and a rather extensive establishment for the building and repairing of large steamers near the city.

I forward, herewith, replies to queries submitted to the City of Dublin Steam Packet Company, with regard to the navigation from Foynes to the docks at Limerick.

I have, &c.,

RICHARD GRIFFITH.

Lord Hobart,
&c. &c.

Queries.

4. What is the distance from Foynes to Limerick by the river?

If steam passage-vessels ply between those places, what time do they take in performing the distance with the tide, and what time against the tide?

Can the passage be made at night or in foggy weather?

How often within the last year has it blown so hard, or the weather been so foggy, that those steamers could not go up or down the river?

5. Supposing a steamer was stationed at Foynes to carry the mails and passengers by the river to Limerick, or from thence to Foynes, what horse-power do you think would be necessary, and what would be the greatest draft of water she would draw to enable her to go alongside the nearest wharf at Limerick to the terminus of the Dublin Railway?

But if she could only go alongside a wharf at certain times of tide, how near could she get to a convenient landing-place to land and embark the mails and passengers and their luggage, and what distance would that landing-place be from the terminus?

What would be charged for this auxiliary steamer making use of the wharf or landing-place at Limerick and at Foynes?

Replies.

4. The distance in nautical miles from Foynes to Limerick is 27 miles.

Steamers ply daily in summer, and three times weekly in winter between those places, performing the distance in two hours and a half with the tide, and about three hours against the tide.

The passage cannot be made at night or in foggy weather.

The steamers at present plying on the river have not lost more than one day during the last 12 months by foggy or stormy weather.

5. A vessel of suitable build, drawing about 5 feet 6 inches, and propelled by engines of 150 horses power, would be capable of performing the mail service between Foynes and Limerick in any weather (excepting foggy) that I have ever experienced on the Lower Shannon, and in less time than above; and such vessel might at all times of the tide approach Limerick, and lay alongside the new dock, where there is now constructed a flight of stone steps from which passengers might land with ease and safety, such landing-place being not more than half a mile from the present terminus of the railway. This terminus, however, is not the permanent one.

The proposed terminus will be nearly a quarter of a mile nearer to the landing-place before mentioned.

A further improvement might easily be effected by erecting it nearly close to the landing-place.

The charge for wharfage at Limerick would be 8*s.* per trip for this auxiliary steam-packet; perhaps not so much at Foynes.

W. G. SIBTHORPE, *Agent,*
City of Dublin Steam Packet Company.

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Official Information, Letters, Returns, &c.

MY LORD, *Hydrographic Office, Admiralty, February* 20, 1851.

IN reply to your Lordship's letter of yesterday, I have the honour of stating, that the distance

From Holyhead to Cape Clear, is 222 nautic miles.
„ „ to Passage 182 „
„ Passage to Cape Clear 58 „

I have, &c.,

The Right Hon. Lord Hobart,
Board of Trade.

F. BEAUFORT,
Hydrographer.

MY LORD, *London, March* 8, 1851.

IN reply to your Lordship's letter, respecting the length of the North American mail steamers, I beg to inform you that the two ships now building are 285 feet between the perpendiculars; the two built last year are about 270 feet.

I have, &c.,

The Right Hon. Lord Hobart,
&c. &c.

(Signed) S. CUNARD.

SIR, *Board of Trade, March* 20, 1851.

I AM directed by the Transatlantic Packet Station Commissioners to request that you will be good enough to inform them, if it is in your power to do so, whether there are in Ireland any coalfields so circumstanced in regard to situation, quality, and working condition, as to render it probable that they could be made available for many years for the regular supply of steamers for transatlantic voyages from Galway, Limerick, or any other port on the west or south of Ireland.

I have, &c.,

Sir H. de la Beche, Museum of Practical Geology,
Craig's Court, Charing Cross.

HOBART.

MY LORD, *Geological Survey Office, April* 2, 1851.

HAVING gone over the information respecting the coalfields of Ireland, with reference to the question proposed in your Lordship's letter of the 20th ult., by the desire of the Transatlantic Packet Station Commissioners, as to a regular supply of proper coal for "Transatlantic voyages from Galway, Limerick, or any other port in the west or south of Ireland," I would request you to inform the Commissioners that, as far as the information above mentioned is published, as the Geological Survey of Ireland has made progress, or as my own investigations at different times extend, I have no reason to dissent from the usually received opinion on the subject, namely, that the coals likely to be found would scarcely be of a combined quality and price to compete with the steam coals of Great Britain in the ports of Ireland. What the close investigations of the Geological Survey in Ireland may disclose it would be premature to infer, but from the reports of Mr. Griffiths, and other competent information, the foregoing would appear a view in accordance with existing knowledge.

With respect to steam coals for sea voyages, I would call your Lordship's attention to the Reports made from the Museum of Practical Geology, and presented to Parliament, on those best suited to the steam navy (founded on investigations undertaken for the Admiralty), wherein the subject of British steam coals has been entered upon in much detail. Two of these reports have already appeared, and a third is in the press, and will shortly be presented to Parliament.

I have, &c.,

The Lord Hobart,
&c. &c.

W. T. DE LA BECHE.

SIR, *Board of Trade, March* 20, 1851.

I AM directed by the Transatlantic Packet Station Commissioners to request that you will inform Earl Grey that it has been stated to the Commissioners that the Imperial Government has consented to give guarantee for a loan, for the purpose of forming a line of railways in the British North American provinces, and *viâ* Portland to New York; and I am to request that Earl Grey will inform the Commissioners whether any such guarantee has been, or is intended to be, given.

I have, &c.,

B. Hawes, Esq., Colonial Office.

HOBART.

MY LORD, *Colonial Office, April* 15, 1851.

I am directed by Earl Grey to acknowledge the receipt of your Lordship's letter of the 20th ultimo, and to acquaint you, in reply, that all the information which it is in Lord Grey's power to afford respecting the proposed formation of a line of railway through the North

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American provinces, and the extent of aid promised by the Imperial Government towards the undertaking, is contained in the papers laid before both Houses of Parliament, by command of Her Majesty, on the 8th instant. *Official Information, Letters, Returns, &c.*

I am, &c.,

The Lord Hobart, Board of Trade. HERMAN MERIVALE.

SIR, *Board of Trade, March* 22, 1851.

I AM directed by the Transatlantic Packet Station Commissioners to request that the Board of Public Works in Dublin will, at their early convenience, furnish the Commissioners with information on the following points:—

The fares for passengers, and the charges for the conveyance of goods,—

1. By steamer from Holyhead to Kingstown.
2. By railway, from Kingstown to Dublin.
3. From Dublin to the Dublin terminus of the Galway Railway.
4. From the said terminus to Galway.

I have, &c.,

R. Griffith, Esq., Board of Works, Dublin. HOBART.

Office of Public Works, Dublin,
MY LORD, *March* 31, 1851.

I HAVE the honour to transmit herewith, by direction of the Commissioners of Public Works, and for the information of the Transatlantic Packet Station Commissioners, letters from the City of Dublin Steam Packet Company; the Midland Great Western Railway Company of Ireland; and the Dublin and Kingstown Railway Company of Ireland, which contain the replies to the queries contained in your Lordship's letter, addressed to the Chairman of this Board, and dated the 22nd instant.

I have, &c.,

The Right Hon. Lord Hobart, Board of Trade. E. HORNSBY, *Secretary.*

City of Dublin Steam Packet Company, 15, *Eden Quay,*
SIR, *Dublin, March* 27, 1851.

I BEG to acknowledge receipt of your communication dated 25th instant, inquiring, for the information of the Transatlantic Packet Station Commissioners, what are the fares for passengers, and the charges for conveyance of goods by steamer from Holyhead to Kingstown. In reply, I beg to state, that the fares by this Company's vessels are,—cabin, 12*s.*; children under 12 years, 6*s.*; servants, 6*s.*

I enclose a card, stating rates for carriages, horses, &c., and beg to add that goods are not at present conveyed by this Company between Holyhead and Kingstown, and that I am unable, therefore, to quote the charges thereon.

I have, &c.,

E. Hornsby, Esq., Secretary, Board of Public Works. P. HOWELL, *Secretary.*

[Card.]

Double Line of Steam Communication every day, with Her Majesty's Mails and Passengers, between Kingstown and Holyhead.

"The Eblana," Mr. J. Williams, commanding.
"The St. Columba," Lieut. A. S. Symes, R.N., commanding.
"The Iron Duke," Mr. J. H. Christie, commanding.
"The Llewelyn," Lieut. E. Keane, commanding.

The City of Dublin Steam-Packet Company despatch one of the above first-class steamships at the under-mentioned hours:—

From Kingstown harbour at 1 P.M. and 7·30 P.M., Dublin time.

From Holyhead, at 1·5 A.M., and 5·49 A.M., (London time,) on the arrival of the London mail trains.

Fares:—Cabin, 12*s.*; children under 12 years, 6*s.*; servants, 6*s.*; steward's fees included. Four-wheeled carriage, 1*l.* 5*s.*; two-wheeled carriage, 12*s.* 6*d.*; horse, 15*s.*; dog, 1*s.* 6*d.*—Carriages and horses should be at the pier, for embarkation, an hour before the packets leave.

Dublin, 15, *Eden Quay.*

Midland Great Western Railway of Ireland,
SIR, *Offices, Broad Stone Station, Dublin, March* 29, 1851.

IN reply to your letter of the 25th instant, I am instructed to inform you, for the information of the Transatlantic Packet Station Commissioners, that the charges for the conveyance of passengers from any part of the City of Dublin to this terminus, is 6*d.* for

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Official Information, Letters, Returns, &c.

a car which carries two persons; and the rates of cartage vary from 1*s.* to 2*s.* per ton, the average being 1*s.* 6*d.*

The rates for passengers per railway to Galway will not exceed 2*d.* per mile for first-class, 1½*d.* per mile for second-class, 1*d.* per mile for third-class; for goods, an average of about 1½*d.* per ton per mile.

The Railway Company have powers to carry their line down to the Dublin Quays, alongside the discharging berths of the steamers, and will have it completed in time for the packet station.

Arrangements are now in progress with the Steam-packet Companies and English railways, by which through rates will be fixed to Galway, from London, Liverpool, and other principal towns in Great Britain; and it is intended that this principle will ultimately be extended to New York and Boston.

I have, &c.,

E. Hornsby, Esq., Office of Public Works.

H. Beausire,
Secretary.

Dublin and Kingstown Railway, 48, *Westland-row*,
March 29, 1851.

Sir,

The fares by this railway for single passengers, between Kingstown and Dublin, are,—first-class, 1*s.*; second-class, 8*d.*; third-class, 6*d.*; children under 14 years of age, half these rates.

As to heavy goods, we do not carry any; but I enclose the schedule from the Act of Incorporation, setting forth the rates authorized to be charged.

I have, &c.,

E. Hornsby, Esq., Secretary,
Commissioners of Public Works.

T. F. Bugen.

[Schedule.]

For lime, limestone, dung, compost, and other manure, and for materials for the repair of public and private roads, and for stones, sand, clay, building, pitching, and paving-stones, tiles, and slates, and for timber, staves, and deals, the sum of two-pence half-penny per ton per mile:

For sugar, corn, grain, flour, dye-woods, lead, iron, and other metals, the sum of three-pence halfpenny per ton per mile:

For cotton and other wool, hides, drugs, groceries, and manufactured goods, the sum of threepence halfpenny per ton per mile:

For hops, tea, wine, spirits, vitriol, glass, and other hazardous goods, the sum of six-pence per ton per mile:

And for any distance short of the whole length of the said railway, not exceeding a rateable proportion of such several sums, according to the distance:

And for coal, coke, culm, charcoal, and cinders, carried or conveyed along the said railway or any part thereof, the sum of threepence per ton per mile:

And for persons, cattle, and other animals, such reasonable charges as shall from time to time be determined by the said Company.

CXXV. Provided always, and be it further enacted, That in all cases where any article, matter, or thing, shall be carried or conveyed upon the said railway for so short a distance that the rate, or toll, or sums of money authorized by this Act to be demanded or received for the carriage of the same shall not amount to one shilling per ton, the said Company are hereby empowered to demand the sum of one shilling per ton thereon, anything in this Act contained to the contrary thereof notwithstanding.

CXXVI. And be it further enacted, That it shall be lawful for the said Company from time to time, and as often as they shall think fit, to reduce all or any of the rates, tolls, or sums, by this Act authorized to be taken for or in respect of all or any of the articles, matters, or things, in this Act specified or mentioned, which shall be conveyed upon the said railway, and afterwards from time to time again to raise the same, or any of them, so that they shall not at any time exceed the amount by this Act authorized.

CXXXVII. Provided always, and be it further enacted, That it shall be lawful for the said Company, from time to time, at any general meeting of the said Company, to make such orders for ascertaining and fixing the price or sum to be charged or taken by the said Company for the carriage of any parcel (not exceeding five hundred pounds weight) upon the said railway, or upon any part thereof, and from time to time to repeal or vary the same as to them shall seem proper.

Sir,

Board of Trade, March 22, 1851.

I am directed by the Transatlantic Packet Station Commissioners to request that the Colonial Land and Emigration Commissioners will furnish them, at their early convenience, with replies to the following questions:—

1. Does the emigration of the poorer classes of emigrants from Ireland to North America take place in every month of the year, or is it in a great degree limited to the spring months?

2. Can any explanation be given why so many emigrants of the poorer class from Ireland embark at Liverpool, and not in the many emigrant ships that sail from the different ports of Ireland?

S. Walcott, Esq., Emigration Office.

I have, &c.,
Horart.

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Colonial Land and Emigration Office, March, 1851.

My Lord,

I am directed by the Colonial Land and Emigration Commissioners to acknowledge the receipt of your letter of the 22nd instant, desiring certain information respecting emigration to America, for the use of the Transatlantic Packet Station Commissioners.

In reply to your Lordship's first question, I am directed to enclose herewith a Monthly Return of Emigration from the ports at which there are emigration officers, for the four years ending 31st December, 1850. From this it will be seen that, as a general rule, the greatest emigration takes place in the four months beginning with March, at which time the first vessels sail for the St. Lawrence, but that the proportion of emigration in the winter months has latterly increased very much.

In respect to the second question contained in your Lordship's letter, I am to state that the great resort of Irish emigrants to Liverpool is, the Commissioners apprehend, to be attributed to the cheapness of passage from that port to the United States, and to the great facilities with which it may be reached by steamer from almost every port in Ireland. It is probable, also, that something is due to the activity of the agents sent into Ireland by the Liverpool shipowners to dispose of passages. But the Commissioners have no means of estimating to what extent the agents of Liverpool shipowners may surpass in activity and success the agents of the shipowners in Irish ports.

I have, &c.,

Lord Hobart, &c. &c.

John Walpole,
Assistant Secretary.

Sir,

Board of Trade, March 22, 1851.

I am directed to request that the Commissioners of Customs will, at their early convenience, obtain from their offices at Galway replies to the following questions:—

1. What was the tonnage and horse-power of the "Viceroy" steamer, which was lost some years ago off the coast of North America, on her first voyage from Galway?
2. How many, and what class of passengers did she carry: and of what amount and description of goods did her freight consist?

I have, &c.,

W. Maclean, Esq., &c. &c.

(Signed) Hobart.

My Lord,

Custom House, April 1, 1851.

In reply to your Lordship's letter of the 22nd ultimo, signifying the request of the Transatlantic Packet Station Commissioners to be furnished with certain information respecting the steamer "Viceroy," wrecked some time since off the coast of North America, on her first voyage from Galway, I have it in command to acquaint your lordship, that the "Viceroy" was 432 tons per register, exclusive of engine-room, and estimated at 350 horse-power. Her cargo consisted of a few packages of linens, shoes, &c. She carried first-class passengers only, and was fitted up for 50, but the actual number on board when she sailed from Ireland, was 35. She cleared out at the port of Dublin, and only called at Galway, from whence she sailed on the 1st June, 1850, and was lost on her return voyage on the 26th of the same month.

I have, &c.,

The Lord Hobart, &c. &c

W. Maclean.

London and North Western Railway, General Manager's Office, Euston Station, March 24, 1851.

My Lord,

In answer to your letter under date the 22nd of March, I beg to inform you that the rate for passengers between London and Holyhead is, express, 3*l.* 1*s.* 6*d.*; first class, 2*l.* 18*s.*; second class, 2*l.* 3*s.* 6*d.* The charge for goods depends so much upon the quantity and description that it is impossible to give any general answer to your inquiry.

I am, &c.,

The Lord Hobart, Board of Trade.

Mark Huish.

Sir,

Board of Trade, April 3, 1851.

I am directed by the Transatlantic Packet Station Commissioners, to request that you will be good enough to transmit the accompanying letter to Lieutenant Carter, of the Coast Guard Service; and direct that officer at his early convenience to furnish the Commissioners with replies to such of the queries contained therein as it may be in his power to answer.

I have, &c.,

Capt. A. Ellice, R.N., &c. &c.

(Signed) Hobart.

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Official Information, Letters, Returns, &c.

SIR, *Board of Trade, April* 3, 1851.

You observe, in answer to the questions sent you by direction of the Transatlantic Packet Station Commissioners:—

"I have seen, even in moderate weather, the sea break terrifically in 22 fathoms of water, and it is a common occurrence for it to break in 12 fathoms."

The Commissioners request that you will be good enough to state, on what part of the coast you have seen the sea break in 22 and 12 fathoms water; and how often during your service on the coast of Ireland? How far were these breakers from the shore?

Were you ashore or afloat at the time you saw them?

In such a sea as you describe, do you think it would be safe to round to a steamship, or ease her sufficiently to obtain deep water soundings?

From what quarter had the wind been blowing just before and at the time?

Was the weather then thick and hazy; at what distance could you then see and make out the land?

Have you ever been obliged, in a gale of wind right in with thick and hazy weather, to run in and to try and make the land, or the light on the Arran Islands, or the land or light on Loop Head; and if so, were the soundings on that part of the coast any guide to you?

Do you consider that the soundings to seaward of the Arran Islands and the mouth of the Shannon would be any guide to a steamer 280 feet long, and drawing 17 or 18 feet water coming from America, and not having had an observation for several days, with the weather so thick that she could not see a mile ahead, running before a heavy gale of wind, and a winter night coming on, so as to justify her commander in running in even in daylight?

I have, &c.,

Commander Carter,
H.M.R.C. "Badger."

(Signed) HOBART.

MY LORD, *Coast Guard Office, April* 17, 1851.

I HAVE the honour to transmit, for the information of the Transatlantic Packet Station Commission, the enclosed letter from Mr. Carter, the officer in command of H.M.R.C. "Badger," containing the further intelligence required.

I have, &c.,

The Lord Hobart,
&c. &c.

A. ELLICE,
Comptroller-General.

H.M. Revenue Cutter "Badger," Castletownsend, Ireland, March 12, 1851.

MY LORD,

I HAVE the honour, in reply to your letter of the 3rd instant, to submit the following answers to the questions therein contained.

The breaker I allnded to in my former report is about two miles to the southward and westward of Duego Head, not far from a line between Achil Head and Pine Island, on the Mayo coast. It is frequently seen from the village of Kiel in Achil, and also from the Coast Guard watchhouse. I have seen it break when at sea in fine weather,* quite clear, and when carrying a gaff topsail on the cutter. The present Inspecting Commander of the Coast Guard at Malahide was on board at the time. The fishermen of the island always stated the depth of water to be 25 fathoms; the least I ever found thereon was 23.

The 12-fathom breakers are numerous on the coast of Mayo and Galway, some of them two and three miles from the shore. I would respectfully beg a reference to the sailing directions which accompany the Admiralty charts, the result of the recent surveys by Captains Frazer and Mudge, R.N., who state the sea as breaking in frightful volumes in 14 or 15 fathoms:—

"The water is deep within half a mile of Fannet Point, where there are 13 fathoms; the few straggling rocks being confined to within a cable's length of the shore; but the bottom is foul for three-quarters of a mile off, and the sea very often breaks in 14 fathoms. This generally takes place at the full and change of the moon, at which time, it is said, the rollers set in, and though it may be calm, they roll on in frightful volumes, breaking in enormous waves along the coast. At such times it will be necessary to keep three-quarters of a mile at least from Fannet Point; for though the sea may appear smooth for a long period, in an instant afterwards two or three swells will grow up in succession, and, if resisted by a falling tide, will accumulate with such overwhelming impetus as to break on the foul ground in the vicinity of the lighthouse, at least half a mile from shore, and in 14 or 15 fathoms water; and should a vessel unfortunately get into them, inevitable destruction would be the consequence. This swell is not confined immediately to the neighbourhood of the entrance, but is nearly as bad in all parts of the Lough outside of Dunree, or where the shore is not protected by some promontory. The rollers on this coast are as formidable as any seen between the tropics; and several vessels have had very narrow escapes from destruction by running over the ground where they break. A schooner was dismasted, and her decks swept clean of everything, by one of these rollers off Dunree Head, though they do not break there with as much violence as off Fannet."

When stationed on the N.W. coast of Ireland I could not account for the heavy sea

* It is 16 years since I was on the Westport station, and I cannot state correctly the state of the weather before and after, but it was quite fine at the time alluded to.

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which almost throughout the winter prevailed. The inhabitants and fishermen attributed it to various causes, such as change of tides, prelude to broken weather, &c.; but since cruising off Cape Clear, I have had frequent opportunities of ascertaining correctly (in my opinion) the cause thereof, by speaking and boarding vessels from abroad, and comparing their logs on these occasions, when the sea had been previously observed to be heavy (without any apparent cause), and I have found that, on the days in question, they had been contending with heavy gales in the Western Ocean; and I am quite convinced that the rollers (as the surveying officers call them) are sent home to the coast by gales, even from a distance of 800 or 900 miles.

I have been bound both to Galway and the Shannon, and have preferred rounding-to, in thick weather, to the risk of getting into Malt Bay in the latter case, and for fear of the outlaying rocks between Arran and Slyne Head, in the former. In 1836, I lay-to two days and nights in a fog at the back of Arran Islands. The "Dolphin" R. C.* was not far from me at the time, and she was three days under similar circumstances, the weather during the time moderate and fine (with the exception of the fog).

I do not consider the soundings to be a correct guide for Galway or the Shannon, as deep water is carried frequently close in to the shore, excepting the foul patches of rocky ground, where it sometimes shoals suddenly from 30 or 40 fathoms to 14, 16, or 18, and where (when the swell prevails) no ship could stand a second breaker.

With imperfect reckoning, the prevailing swell, frequent fogs, and the short days of winter, a steam-ship would find it hazardous to run for Galway, particularly as Slyne Head can never be approached in thick weather. It is misnamed a "Head," whilst in in reality it is nothing but a long low-shelving point, with more outlying rocks and breakers on each side than any other part of Ireland; and I would respectfully refer to the chart of that coast to prove the perilous position of a steam-ship with damaged machinery, unable to make the land before night, in a gale with thick weather, bound either to Galway or the Shannon, and obliged to haul off from the height of a bay so deep and dangerous as that formed by the Blasket Islands and "Slyne Head."

Several vessels foundered and were driven on shore in that bay in a gale in November last; and no greater proof can be given of the safety of the coast of Cork than the few casualties that occur thereon, considering the amazing quantities of valuable ships that pass its coast from all parts of the world, bound to and from Liverpool, the Clyde, Belfast, Dublin, &c., whilst the trade on the western ports is chiefly confined to provisions and timber.

I have, &c.,

The Lord Hobart,
&c. &c.

J. CARTER,
Commander.

SIR, *Board of Trade, April 7*, 1851.

I AM directed by the Transatlantic Packet Station Commissioners to request that the Colonial Land and Emigration Commissioners will inform them whether it is to any extent the practice for vessels proceeding from Liverpool, or from the ports of Ireland to North America, conveying Irish emigrants of the usual class, to take on board first or second class passengers also.

I have, &c.,

Colonial Emigration Board.

(Signed) HOBART.

Colonial Land and Emigration Office, Park Street,
MY LORD, *Westminster, April* 11, 1851.

I HAVE the honour, by direction of the Colonial Land and Emigration Commissioners, to acknowledge the receipt of your Lordship's letter of the 7th instant, and to state in reply, for the information of the Transatlantic Packet Station Commissioners, that the vessels which carry emigrants from Liverpool, and, the Commissioners presume, those also from Ireland, usually carry also cabin passengers. Whether they likewise carry intermediate passengers the Commissioners are unable to state, but they will desire the emigration officers at Liverpool and Cork to furnish this information.

I have, &c.

The Lord Hobart,
&c. &c.

S. WALCOTT, *Secretary.*

Colonial Land and Emigration Office, Park-street,
MY LORD, *Westminster, April* 24, 1851.

WITH reference to your Lordship's letter of the 7th instant, and to the latter portion of my reply of the 11th, I am directed by the Colonial Land and Emigration Commissioners to transmit to you, for the information of the Transatlantic Packet Station Commissioners, the enclosed copies of communications which have been received from the emigration officers at Liverpool and Cork respecting the emigration from those ports of second-class passengers.

I have, &c.,

Lord Hobart,
&c. &c.

S. WALCOTT, *Secretary.*

---

* The address of the "Dolphin's" commander can be given, if required.

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Official Information, Letters, Returns, &c.

SIR, *Government Emigration Office, Queenstown, April* 15, 1851.

I HAVE to acknowledge the receipt of your letter of the 12th instant, wishing me to acquaint the Board whether it is to any extent the practice for vessels proceeding from this port to North America, and conveying Irish emigrants of the usual class, to take second-class or intermediate passengers; I have, in reply, to state, that it is usual for such vessels to take a portion of their passengers as second-class or intermediate, of about to the extent of one-tenth of the number.

I have, &c.,

(Signed) CHARLES FAIEND,
Emigration Officer.

S. Walcott, Esq.

SIR, *Government Emigration Office, Liverpool, April* 14, 1851.

I HAVE the honour to inform you, for the information of the Board, that a large number of the vessels conveying passengers from this port have very superior second-class accommodation, which is usually filled at the average rate of 5*l.* per head, but they are not distinguished from steerage passengers in the clearance lists, and therefore I am unable to give the relative proportion, but they comprise a large number.

I am, &c.,

(Signed) T. E. HONDER,
Government Emigration Officer.

SIR, *Board of Trade, April* 29, 1851.

I AM directed by the Transatlantic Packet Station Commissioners to request that you will inform them what was the total amount of Post Office Revenue received during the last year in respect of letters conveyed by the North American Mail Packets belonging to Messrs. Cunard and Co.?

I have, &c.,

(Signed) HOBART.

Lieut.-Col. W. L. Maberly.

MY LORD, *General Post Office, May* 7, 1851.

IN reply to your Lordship's letter of the 29th ultimo, I am directed by the Postmaster-General to acquaint you, for the information of the Transatlantic Packet Station Commissioners, that, according to accounts kept at Liverpool, the amount of British postage chargeable upon the letters, &c., forwarded during the year 1850, in the bags made up in that office for the United States and British North America, by the Cunard Mail Packets, was 63,458*l.* 1*s.* 4½*d.*, and the amount of British Postage chargeable on the correspondence contained in the bags brought to Liverpool by the Cunard packets, during the same period, and opened at that office, was 60,733*l.* 9*s.* 6*d.*, making in all 124,191*l.* 10*s.* 10½*d.*

This account, however, does not include the postage charged on the letters posted in London on the day previous to the sailing of the packet (which letters are made up *in London* in sealed bags), nor the postage charged on the letters brought *to London* in sealed bags from the United States and British North America.

Of these two classes of correspondence no accounts are kept, except on special occasions. The last account was taken in May, 1850, at which period the amount of British postage chargeable upon the letters, &c., forwarded *by one mail*, in the bags made up in London for the United States and British North America, was 201*l.* 8*s.* 11*d.*, and the amount of British postage chargeable upon the letters, &c., contained in the bags for London, *brought by one mail* from the United States and British North America, was 388*l.* 1*s.*

I have, &c.,

W. L. MABERLY.

The Lord Hobart,
&c. &c.

MY LORD, *Hydrographic Office, Admiralty, May* 14, 1851.

LIEUT.-GEN. SIR JOHN BURGOYNE having requested me to forward to the Transatlantic Packet Station Commissioners the great circle distances from Long Island and from Dunbeacon Point to New York, I have stated them here below:—

Long Island.—Anchorage off eastern point one mile south of the town of Skull, to New York, Jersey City Pier, 2725 nautic miles.

Dunbeacon.—Off Coast Guard Station, to New York, Jersey City Pier, 2728 nautic miles.

I have, &c.,

F. BEAUFORT.
Hydrographer.

The Lord Hobart,
&c. &c.

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City of Dublin Steam Packet Company Office, 24, *Water-street, Liverpool, December* 16, 1850.

Coals.—The present contract price paid by this Company is 8*s.* 3*d.* per ton, when put on board the steamers in *the dock*, and 8*s.* 8*d.* per ton when put on board the vessels when at anchor in *the river*.

The description of coals used by the Company's and other coasting steamers is the Russia Park, and other St. Helen's coal. This description of coals, however, is not considered suitable for steamers making *long voyages*, on account of its burning so swift, and the greater quantity required in consequence, with the enlarged space to be filled.

The contract price of South Wales coal supplied to the Halifax steamers is 16*s.* per ton, delivered here. Occasionally it may be somewhat less, and even down to 14*s.* *At present*, however, the price is high, being 19*s.* per ton, on account of *freight* from Cardiff being as high as 9*s.* to 9*s.* 6*d.* per ton. The South Wales coal is decidedly the best for long voyages.

MEMORANDUM as to the Description of Coals best suited for Steam Vessels intended for long voyages, and the Cost thereof.

1. The best coals for steam vessels proceeding on long voyages are the Merthyr, Duffryn, and Resolven, all from South Wales.

2. The cost of these coals at the places of shipment in Wales is from 8*s.* 6*d.* to 9*s.* per ton.

3. The probable price of these coals, delivered by contract at the undermentioned ports, would be as against the same expressed, viz.:—

	s.	*d.*	
Liverpool	15	6	per ton, delivered into store.
	17	0	„ supplied from a floating depôt.
Southampton	14	9	„ delivered into store.
Holyhead	13	6	„ „
Cork	15	6	„ „
Galway	20	0	„ „
Limerick	19	0	„ „
Other Ports on the west coast of Ireland	20	0	„ „

4. There is, occasionally, freight of iron ore from Liverpool to Wales, but not to a sufficient extent to affect the price of coals sent from Wales to that place. No back freight could be relied on from the other above-mentioned places to ports in Wales.

Admiralty, January 14, 1851. J. R. CLARK.

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RETURN exhibiting the undermentioned Particulars respecting the Lines of Steam Packets, Paddle or Screw, British or Foreign, established between the Port of Liverpool and North America, or which touch at Liverpool on their way to or from North America, also of any other such Lines of Steamers as are in contemplation

Whether established or in contemplation, or which only touch at Liverpool.	Name of the Line.	Names of the Steamers comprising the Line.	Whether British or Foreign.	Whether Mails, or solely on certain Account	Whether Paddle or Screw	Tonnage		Horse Power	Depth of Water the Vessel draws when laden.	Extreme Width of the Vessel (over the Paddles).	Ports of Destination.	Times of Sailing.		Rates of Freight	Rates of Passage.
						Per Register.	Per Builder's Measurement (including the Engine-room).					From Liverpool.	From America.		
Established 1840	British and North American Royal Mail Steam Packet Company.	Asia	British	Mail	Paddle	1,234	2,200	800	22	Feet. 64	For New York and Boston, via Halifax.	Every Saturday during Eight Months, and alternate Saturday during Four Months from December	Every Wednesday during Eight Months, and alternate Wednesday during Four Months from January	7l. per Ton (of 40 cubic feet) to America. Goods from America at varying Rates.	To America— 2l. 1st Class. 20l. 2nd Class. From America— 24l. 1st Class. 16l. 2nd Class.
		Africa	Ditto	Ditto	Ditto	1,210	2,200	800	22	64					
		Europa	Ditto	Ditto	Ditto	1,810	1,850	750	21½	63					
		Canada	Ditto	Ditto	Ditto	1,831	1,850	750	21½	63					
		America	Ditto	Ditto	Ditto	864	1,850	750	21½	63					
		Niagara	Ditto	Ditto	Ditto	1,908	1,850	750	21½	63					
		Caledonia	Ditto	Ditto	Ditto	700	1,450	600	20	61					
		Arabia	Ditto	Ditto	Ditto	Building	2,300	900	23	65					
		Persia	Ditto	Ditto	Ditto	Building	2,300	800	23	65					
Established 1850.	United States Mail Steam Ship Company.	Atlantic	American	Ditto	Ditto	1,432	2,701	1,000	22	79	New York	See accompanying printed List of Sailings marked A.		Same Rates as the above	To New York 35l. From New York 27l.
		Pacific	Ditto	Ditto	Ditto	1,431	2,816	1,000	22	79					
		Arctic	Ditto	Ditto	Ditto	1,344	2,789	1,000	22	79					
		Baltic	Ditto	Ditto	Ditto	1,428	2,759	1,000	22	79					
		Adriatic	Ditto	Ditto	Building		2,856	1,000	22	79					
In course of establishment.	Liverpool and Philadelphia Steam Ship Company *	City of Glasgow	British	Private	Screw	1,087	1,610	330	17	34	Philadelphia	See List of Sailings marked B. annexed.		6l. per Ton (of 40 cubic ft.) to Philadelphia: from Ocean according to Agreement.	From Liverpool— 22 gns. 1st Cabin. 13 gns. 2nd Cabin From Philadelphia— 1st Cabin, 100 dol. 2nd Cabin, 60 dol.

* Other steamers in contemplation for this line, but arrangements not sufficiently definite to make any return of them.

Custom House, Liverpool December 6, 1850

(Signed) E. ARNAUD, *Collector*
J. WIGHALL, *Acting Controller*

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All the entrances of the new docks at this port are 70 feet wide, with about 32 feet depth of water, with the exception of that called the "Huskisson," which is 80 feet wide at its entrance for the reception of the largest steam ships, and is supposed to be the widest in the world.

List A.

The UNITED STATES MAIL STEAMERS. The ships comprising this line are the Atlantic, Captain West; Arctic, Captain Luce; Pacific, Captain Nye; Baltic, Captain Comstock; Adriatic, Captain Grafton.

These ships having been built by contract, expressly for Government service, every care has been taken in their construction, as also in their engines, to insure strength and speed, and their accommodations for passengers are unequalled for elegance or comfort.

Price of passage from Liverpool to New York is 35*l.*, reserving nine of the largest-sized rooms for families, for which an extra price is charged.

An experienced surgeon attached to each ship.

No berth secured until paid for.

PROPOSED DATES OF SAILING.

From Liverpool.

ARCTIC	Wednesday	November 20, 1850.
BALTIC	Saturday	December 14, „
PACIFIC	„	„ 28, „
ATLANTIC	„	January 11, 1851.
	„	„ 25, „
	„	February 8, „
	„	„ 22, „
	„	March 8, „
	„	„ 22, „
	Wednesday	April 2, „

From New York.

BALTIC	Saturday	November 16, 1850.
PACIFIC	„	„ 30, „
ATLANTIC	„	December 14, „
	„	„ 28, „
	Wednesday	January 8, 1851.
	„	„ 22, „
	„	February 5, „
	„	„ 19, „
	„	March 5, „

For freight or passage apply to

BROWN, SHIPLEY, & Co., *Liverpool.*

OR

EDWARD K. COLLINS, *New York.*

List B.

STEAM Communication between LIVERPOOL and PHILADELPHIA.

The powerful new screw steam-ship "City of Glasgow," B. R. Matthews (late of the "Great Western"), Commander; 1,610 tons, 350 horse power, is intended to sail as under:—

From Liverpool.	*From Philadelphia.*
Wednesday, December 11, 1850.	Thursday, January 16, 1851.
„ February 12, 1851.	„ March 13, „

This vessel is well known from her successful voyages between Glasgow and New York, and has ample state-room accommodation for about 120 first and second cabin passengers (no steerage passengers taken).

RATES OF PASSAGE.

From Liverpool.	*From Philadelphia.*
First Cabin, 22 guineas.	First Cabin, 100 dollars.
Second Cabin, 13 guineas.	Second Cabin, 60 dollars.

These rates include provisions and steward's fee, but not wines or liquors, which can be had on board.

RATES OF FREIGHT.

From Liverpool.	*From Philadelphia.*
Four pounds sterling, per ton measurement.	According to agreement.

Passengers and shippers will find Philadelphia the most central port, possessing railway communication in a few hours, and at trifling expense, to New York and for the north; being also on the mail line from the north through Baltimore to Washington and the Southern States,

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Official Information, Letters, Returns, &c.

and the Great Central Railway (now open to within 80 miles of Pittsburg, on the Ohio river) forms the shortest and most direct route to the Western States.

All goods sent to the agents in Philadelphia will be forwarded with economy and despatch.

For further particulars apply, in Philadelphia and New York, to Richardson, Watson, and Co.; in Belfast, to Richardson Brothers and Co.; in Glasgow, to Patrick Henderson and Co.; and in Liverpool to

RICHARDSON BROTHERS and Co.,
12 *and* 13 *Tower-buildings, Liverpool.*

HONOURABLE SIRS, *Custom House, Southampton, December* 3, 1850.

WITH reference to the Assistant Secretary's letter of yesterday's date, we beg to report that the only line of steamers established between this port and North America is that of the "Ocean Steam Navigation Company," viz.:—The New York, Southampton, and Bremen line, which consists of two paddle steamers, both American, the "Washington" and the "Hermann," of 1,850 tons, and 600 horse-power each.

These vessels leave New York and Southampton monthly, draw from 18½ feet of water when light, to 22½ feet when loaded, and their extreme breadth is 65 feet.

The rates of passage money are,—

	£.	s.	d.
1st Class passengers . . .	31	10	0
2nd „ . . .	16	16	0

Freights on coarse goods 25 dolls., or 5*l.*, per ton of 40 cubic feet.
Ditto, on fine goods, silks, &c., 35 dolls. or 7*l.*, ditto.

We have no authentic information as to any other line of steamers being in contemplation than these, which are mail packets under contract with the Government of the United States, and the "Ocean Steam Navigation Company" of New York.

Respectfully submitted,

The Hon. the Commissioners H.M. Customs. (Signed) T. POWELL, *Collector.* NEAL LEITCH, *Contractor.*

AN ACCOUNT of the NUMBER and TONNAGE of VESSELS which Cleared out from the PORTS in IRELAND for NORTH AMERICA, in the Year 1850, distinguishing the Ships Employed in the conveyance of Emigrants and in the Timber Trade respectively, from other Vessels. From Returns furnished by the Commissioners of Customs.

PORTS.	Vessels Employed in conveyance of Emigrants.			Vessels Employed in the Timber Trade.			Other Vessels.			Total.	
	No.	Tonnage.	Destination.	No.	Tonnage.	Destination.	No.	Tonnage.	Destination.	No.	Tonnage.
Ballina	2	371	Quebec	..	..	..	..	..	..	2	371
Belfast	46*	20,286	..	..	..	..	14	4,817	..	60	25,103
Colerane	..	..	..	3	965	..	..	..	..	3	965
Cork	24	5,954	..	..	..	..	..	..	..	24	5,954
Drogheda	Nil.										
Doblin	8	3,938	Canada	2	551	Canada	4	1,383	United States	46	21,899
	21	11,652	United States	8	2,995	New Brunswick	..	..	..		
	..	..	..	3	1,380	United States	..	..	..		
Dundalk	Nil.										
Galway	1	299	British N. America.	..	..	..	..	..	..	25	6,779
	24	6,480	United States								
Limerick	80	21,958	..	1	201	..	3	562	..	84	22,741
Londonderry	5†	1,651	..	..	..	..	3	316	..	8	2,467
Newry	10	6,193	..	1	664	..	..	..	..	11	6,857
Ross	12	6,162	..	..	..	..	1	168	..	13	6,325
Skibbereen	2	339	..	1	286	..	..	..	..	3	625
Sligo	13‡	3,181	..	..	..	..	3	951	..	16	4,132
Strangford	1§	318	..	..	..	..	..	..	..	1	316
Tralee	2	816	..	..	..	..	..	..	..	2	816
Waterford	17	3,841	British N. America.	..	..	..	5	1,117	British N. America.	35	9,365
	12	3,177	United States	..	..	..	1	230	United States		
Westport	6	1,505	..	1	292	..	..	..	..	9	1,797
Wexford	5	1,468	..	..	..	..	..	..	..	5	1,468
Total	293	99,589	..	20	7,314	..	34	10,059	..	347	116,962

* Vessels engaged in conveyance of emigrants, and those employed in the timber trade, are not distinguished in this Return.
† Carrying passengers and engaged in timber trade.
‡ Emigrant vessels, and those employed in timber trade, are not distinguished in this Return.
§ Cleared in ballast.

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North Channel Passages of the British and North American Royal Mail Steamers for the Year 1849, *to wit,*—

	Left Liverpool.	Left America.
Canada	Outwards, May 5	Homewards, May 30.
Caledonia	„ May 12	..
Cambria	„ June 2	..
Niagara	..	„ July 25
Caledonia	„ July 7	„ Aug. 1
Europa	„ „ 14	..
America	„ „ 28	..
Cambria	„ Sept. 8	..
Canada	„ „ 22	..
Caledonia	„ „ 29	..
Niagara	„ Oct. 6	..
Caledonia	„ Nov. 10	..

North Channel Passages of the British and North American Royal Mail Steamers for the Year 1850, *to wit,*—

	Left Liverpool.	Left America.
Asia	Outwards, May 18	Homewards, ..
America	„ „ 25	„ June 19
Canada	„ June 1	..
Niagara	..	„ July 10
Europa	„ June 22	..
Hibernia	..	„ July 24
America	„ July 6	„ „ 31
Asia	„ „ 13	„ Aug. 7
Canada	„ „ 20	..
Europa	„ Aug. 10	..
America	..	„ Sept. 11
Hibernia	„ Aug. 24	..
Cambria	„ Sept. 21	„ Oct. 16
Cambria	„ Nov. 2	..
Africa	„ Dec. 7	„ Jan. 1, 1851.

Speed of the North American Contract Steamers.

The following would be the average speed per hour of each vessel, in nautical miles, after deducting ascertained stoppages. These averages are arrived at by dividing the distances by the time; the distance being 3100 miles between Liverpool and New York, and 2500 miles between Liverpool and Halifax; these, of course, being less than the actual distances run by the ships.

	Outwards.	Homewards.
Cambria, 3 voyages to and from Halifax	9½	11
Hibernia, 3 „ „	9½	10¾
Canada, 4 „ „	10½	11
America, 4 „ „	10½	11½
Europa, 3 „ „	11½	11¾
„ 1 voyage to and from New York	10½	11¾
Niagara, 3 voyages to and from Halifax	10½	11¼
„ 1 voyage to and from New York	10½	11½
Asia, 3 voyages to and 2 from Halifax	12¼	12½
„ 1 voyage to and 1 from New York	11¾	12½

THOMAS BEVIS, *Commander, R.N.*

Liverpool.

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An Account of the Number and Tonnage of Vessels that entered and cleared at the several Ports of Ireland, from and to North America, in the Year 1849

—	BRITISH NORTHERN COLONIES.						UNITED STATES.										TOTAL.			
	Inwards.		Outwards				Inwards.				Outwards									
	Cargoes.		Cargoes.		Ballast		Cargoes.				Cargoes.				Ballast.					
							British.		Foreign.		British		Foreign		British.		Foreign		Inwards		Outwards.	
	Ships.	Tons.	Ships.	Tons.	Ships.	Tons.	Ships.	Tons.	Ships.	Tons.	Ships.	Tons.	Ships.	Tons.	Ships.	Tons.	Ships.	Tons.	Ships.	Tons	Ships.	Tons
Ballina	2	272	"	"	2	227	1	216	"	"	"	"	"	"	"	"	"	"	3	488	3	537
Belfast	90	18,432	0	5,893	10	2,511	20	6,363	10	3 434	31	10,263	"	"	0	3,001	10	4,545	0	1,600	76	37,213	73	34,021
Calvarion	4	586	"	"	3	777	"	"	"	"	"	"	"	"	"	"	"	"	"	"	4	586	3	777
Cork	91	12,966	4	830	20	6,756	21	6,910	13	4,624	3	673	4	1,160	"	"	41	12,716	8	2,766	30	24,504	67	24,613
Drogheda	4	1,502	"	"	3	659	"	"	1	245	1	403	"	"	"	"	1	281	"	"	5	1,747	5	1,233
Dublin	43	14,467	0	2,047	29	6,127	18	3,997	6	6,507	6	4,093	4	1,036	23	13,131	4	1,327	64	20,811	70	30 751
Drumbelt	3	1,648	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	3	1 648	"	"
Galway	10	2,171	"	"	9	2,329	16	4,286	6	814	"	"	2	373	28	7,587	2	434	32	6 143	40	11,136
Limerick	25	7,151	"	"	17	10,726	16	3,124	17	4,708	4	851	2	643	15	7,464	11	3,021	61	17 991	69	26 798
Londonderry	8	3,386	2	858	7	2 448	16	5,814	13	3,899	22	10,810	10	3,014	6	2,461	2	324	40	13,209	46	20,434
Newry	6	2,314	3	410	4	1 351	3	1,373	"	"	7	3,472	"	"	5	2,305	"	"	6	4 296	16	8,238
Ross	9	1,140	1	200	6	2,143	4	1,314	2	162	1	401	"	"	0	2 327	2	206	6	2,624	15	5 134
Skibbereen	3	583	"	"	1	256	"	"	"	"	"	"	"	"	"	"	"	"	3	583	1	256
Sligo	19	2 828	"	"	22	5 137	11	3,164	0	310	"	"	"	"	"	"	14	3,595	1	287	37	6 019	37	6 012
Stranford	1	886	"	"	"	"	1	246	"	"	"	"	"	"	"	"	"	"	2	634	"	"
Tra es	2	746	"	"	10	2 276	3	430	0	572	"	"	"	"	"	"	2	886	0	5,087	13	3 135
Waterford	91	4 422	25	2,244	16	2 864	6	1,531	1	278	16	6,467	1	338	"	"	"	"	27	6,288	45	12 804
Westport	7	1,678	0	2 396	0	1,136	0	1,110	2	488	1	394	"	"	"	"	2	583	12	3 672	18	4,369
Wexford	0	1,611	"	"	2	303	5	848	"	"	"	"	"	"	"	"	"	"	12	2,494	7	1 711
Total	368	78 746	36	20 172	207	56,074	142	43,103	96	25,269	98	36,857	32	15,301	165	88,817	38	10,931	490	144 216	487	188,372

Custom House, London, January 21, 1851.

W H Noss, *Registrar-General*

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STATEMENT of the Import and Export Trade of Ireland with the British Colonies in North America, and with the United States respectively, in the Year 1849.

TRADE BETWEEN IRELAND AND THE BRITISH NORTH AMERICAN COLONIES.

IMPORTS INTO IRELAND.

Principal Articles.		Quantities Imported in 1849.
Corn, Meal, and Flour, viz.; Wheatmeal and Flour	Cwts.	1,762
Fish, of British taking	,,	24,689
Oil, Train or Blubber	Tons	50
Wood and Timber, not sawed or split	Loads	40,334
,, sawed or split	,,	52,009
,, staves	,,	7,126
,, lath-wood	Fathoms	120

EXPORTS FROM IRELAND.—I. FOREIGN AND COLONIAL MERCHANDIZE.

Coffee	lbs.	1,227
Spirits, Rum	Proof gallons	392

II. PRODUCE AND MANUFACTURES OF THE UNITED KINGDOM.

	Declared Value of the Exportations in 1849.
	£.
Coals	430
Cordage	1,961
Cotton Manufactures	482
Iron, wrought and unwrought	288
Leather, wrought and unwrought	331
Linen Manufactures	650
Salt	1,040
Woollen Manufactures	423
Other articles	2,327
Total	8,317

TRADE BETWEEN IRELAND AND THE UNITED STATES OF AMERICA.

IMPORTS INTO IRELAND.

Principal Articles.		Quantities Imported in 1849.
Bacon	Cwts.	11,736
Beef, salted, not cured	,,	1,546
Cheese	,,	259
Corn, Wheat	Qrs.	2,037
,, Indian Corn	,,	265,454
,, Wheatmeal and Flour	Cwts.	27,546
,, Indian Meal	,,	23,907
Lard	,,	5,741
Logwood	Tons	245
Pork, salted	Cwts.	34,443
Rosin	,,	18,384
Tallow	,,	430
Tobacco, manufactured, and Segars	lbs.	2,278
Turpentine, common	Cwts.	540
Wood and Timber, Staves	Loads	1,134
Wool, cotton	lbs.	31,542

EXPORTS FROM IRELAND.—I. FOREIGN AND COLONIAL MERCHANDIZE.

Flax and Tow, or Caddis of Hemp and Flax	Cwts.	253
Salt	Tons	105
Spirits, Rum	Proof gallons	192

II. PRODUCE AND MANUFACTURES OF THE UNITED KINGDOM.

	Declared Value of the Exportations in 1849.
	£.
Cotton Manufactures	1,031
Iron, wrought and unwrought	28,977
Linen Manufactures	4,389
Salt	5,443
Spirits, Irish	5,429
Other Articles	4,367
Total £	50,636

NOTE.—The foregoing statement presents the Trade of the Irish Ports either ready with the British North American Colonies and with the United States. The proportion of the Trade belonging to each Port of Ireland is indicated by the annexed account of shipping; but can not be shown more precisely without considerable delay—the records of this Office not being constructed to show the trade of individual ports.

Office of the Inspector-General of Imports and Exports,
Custom House, London, January 29, 1851.

W. Irving

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Official Information, Letters, Returns, &c.

An Account showing the Quantity and Value of Linens of Irish Manufacture Exported in the Year 1850, from the Port of Liverpool to the British Colonies in North America, and to the United States of America respectively.

	Irish Linens Exported from Liverpool in 1850.	
	Quantity.	Value.
	Yards.	£.
To the British Colonies in North America . .	910	35
,, United States of America	2,817,888	113,982
	2,818,798	114,017

W. Irving.

Office of the Inspector-General of Imports and Exports, Custom House, London, 15th February, 1851.

Distances in Nautical Miles, on the ordinary Sailing Lines for Packets, and measured on the Arc of a Great Circle.

From	To Halifax Pier (Nova Scotia) direct.	To New York, at Jersey City Wharf, direct.
	Miles.	Miles.
Galway Road—From +→ with Mutton Light W.N.W. ¼ W., half a mile	2,184	2,731
Tarbert (Shannon)—From +→ with Lighthouse, N.W., half a mile .	2,176	2,723
Valentia (Renard Point).	2,145	2,692
Berehaven (Menane Point)	2,177	2,724
Crookhaven (Rock Island Light)	2,170	2,717
Cork (Monkstown)	2,233	2,780
Liverpool (Floating Pier)	2,466	3,013
Holyhead (Pier Head)	2,399	2,946
Pembroke (Hobb's Point)	2,346	2,893
Falmouth (Town)	2,374	2,921
Southampton (Wharf)	2,522	3,069
Halifax Pier (Nova Scotia)	..	572
Holyhead Pier to the Tuskar, 91 miles	..	..

(Signed) F. Beaufort,
Hydrographer to the Admiralty.

Steam Traffic between Belfast and Liverpool and Belfast and Dublin.

Belfast and Liverpool.

There are three regular steamers employed on this line.

They each perform 13 trips from one port to the other in every month, the voyage varying from 12 to 14 hours.

Present cabin fare, 10*s.*; deck, 1*s.*

Measurement goods, from 3*d.* to 4*d.* per foot.

Goods per ton varies from 8*s.* to 20*s.*; grain and iron, &c., 8*s.*; flax and light goods, 20*s.* per ton.

Belfast and Dublin.

There are three steamers on this line.

Each performs 10 trips in a month; voyages varying from 12 to 14 hours.

Cabin fare, 7*s.* 6*d.*; deck fare, 2*s.* 6*d.*

Freight of goods, same as to Liverpool.

Office of Public Works, Dublin, March 3, 1851.

Richard Griffith.

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Official Information, Letters, Returns, &c.

A RETURN showing the time at which each of the Transatlantic Mail Steamers Employed in the year 1850 left Victoria Channel, and the time at which she arrived abreast of Cape Clear, on her Outward Voyage: also showing the time of arrival abreast of Cape Clear, and at Victoria Channel, on her Homeward Voyage.

DATE.	From Victoria Channel.		To Cape Clear.		Hours.	From Cape Clear.		To Victoria Channel.		Hours.
1850.						1850.				
Jan. 12	Niagara	12·30 P.M.	Not seen.			Feb. 16	2·10 P.M.	Feb. 17	1·15 P.M.	23
,, 26	Europa .	8·0 ,,	Ditto.			Mar. 2	11·0 ,,	Mar. 3	11·0 ,,	24
Feb. 9	America	8·0 ,,	Feb. 11	6·0 P.M.	46*	,, 18	0·35 A.M.	,, 19	0·42 A.M.	24
,, 23	Canada .	5·20 ,,	,, 25	12·15 A.M.	30	,, 31	6·45 P.M.	April 1	9·0 P.M.	26
Mar. 9	Niagara .	6·0 ,,	Mar. 10	11·0 P.M.	29	April 15	1·30 A.M.	,, 16	2 0 A.M.	24
,, 23	Europa .	7·10 ,,	,, 24	9·40 ,,	26	,, 28	4·20 ,,	,, 29	7·0 ,,	26
April 6	America	4·22 ,,	April 8	0·44 A.M.	32	May 12	4·26 ,,	May 13	4·0 ,,	23
,, 13	Cambria	0·50 ,,	,, 14	9·0 P.M.	32	,, 20	4·25 ,,	,, 21	6·30 ,,	26
,, 20	Canada .	3·40 ,,	,, 21	4·45 ,,	25	,, 25	0·23 P.M.	,, 26	11·5 ,,	23
,, 27	Niagara .	12·45 ,,	,, 28	1 30 ,,	24	June 2	9·20 ,,	June 3	10·0 P.M.	24
May 4	Hiberma	2·52 ,,	May 5	7.30 ,,	28	,, 9	1·25 ,,	,, 10	1·37 ,,	24
,, 11	Europa .	8·30 ,,	,, 12	9·30 ,,	25	,, 15	7·35 A.M.	,, 16	6·30 A.M.	23
,, 18	Asia. .	2·18 ,,	North Channel.			,, 20	7·0 ,,	,, 22	5·15 ,,	22
,, 25	America	0·10 ,,	Ditto.			North Channel.				
June 1	Canada .	1·30 ,,	Ditto.			Not seen.				
,, 8	Cambria	7·11 ,,	June 10	1·25 P.M.	30	July 15	1·15 A.M.	July 16	4·25 A.M.	27
,, 15	Niagara .	1·55 ,,	,, 16	4·0 ,,	26	North Channel.				
,, 22	Europa .	11·45 A.M.	North Channel.			July 27	2·24 P.M.	,, 28	1·30 P.M.	23
,, 29	Hiberma	2·15 P.M.	July 1	1·35 A.M.	35	North Channel.				
July 6	America	5·55 ,,	North Channel.			Ditto.				
,, 13	Asia. .	1·23 ,,	Ditto.			Ditto.				
,, 20	Canada .	6·0 ,,	Ditto.			Not seen.				
,, 27	Cambria	1·15 ,,	July 28	2·30 P.M.	25	Ditto.				
Aug. 3	Niagara.	4·0 ,,	Aug. 4	10·45 ,,	30	Sept. 8	4·8 P.M.	Sept. 9	4·15 A.M.	24
,, 10	Europa .	1·0 ,,	North Channel.			,, 14	10·28 ,,	,, 15	10·50 P.M.	24
,, 17	America	5·12 ,,	Aug. 18	9·27 P.M.	28	North Channel.				
,, 24	Hibernia	1·16 ,,	North Channel.			Sept. 28	8·30 P.M.	,, 29	9·26 P.M.	25
,, 31	Asia. .	2·30 ,,	Sept. 1	2·25 P.M.	24	Oct. 5	1·6 ,,	Oct. 5	10 30 ,,	21
Sept. 7	Canada .	0·55 ,,	,, 8	11·40 A.M.	22	,, 12	10·15 ,,	,, 14	0·10 A.M.	26
,, 14	Niagara.	3·0 ,,	,, 15	4·30 P.M.	25	,, 19	8·30 ,,	,, 20	8·10 P.M.	24
,, 21	Cambria	1·40 ,,	North Channal.			North Channel.				
,, 28	Europa .	2·10 ,,	Sept. 29	6·0 P.M.	27	Nov. 2	9·32 A.M.	Nov. 3	8·10 A.M.	22
Oct. 5	America.	0·38 ,,	Oct. 7	1·10 A.M.	36†	Not seen.				
,, 12	Asia. .	1·40 ,,	,, 13	0·25 P.M.	22	Nov. 16	3·57 A.M.	,, 17	7·0 A.M.	27
,, 19	Canada .	0·15 ,,	,, 20	Noon.	24	,, 23	7·30 ,,	,, 24	6·30 ,,	23
,, 26	Africa .	1·40 ,,	,, 27	2·20 P.M.	24	,, 30	7·50 ,,	Dec. 1	7·10 ,,	23
Nov. 2	Cambria	11·25 A.M.	North Channel.			Not seen.				
,, 9	Niagara.	1·20 P.M.	Nov. 10	5·10 P.M.	27	Dec. 15	8·0 P.M.	,, 17	1·0 A.M.	31
,, 16	Europa .	11·16 A.M.	,, 17	11·52 A.M.	24	,, 20	6·15 ,,	,, 21	8·45 P.M.	26
,, 23	Asia. .	1·20 P.M.	Not seen.			,, 27	10·0 ,,	,, 28	8·44 ,,	22
,, 30	America.	11·10 A.M.	Dec. 1	7·8 P.M.	32	1851.				
Dec. 7	Africa .	1·30 P.M.	North Channal.			Jan. 5	Noon.	Jan. 6	11·10 A.M.	23
,, 21	Niagara.	1·50 ,,	Dec. 22	5·30 P.M.	28	North Channel.				
						Not seen.				

* S.W. gale.

† Detained by towing a schooner into Waterford.

(Signed) THOMAS BEVIS, R.N.,
Commander.

Liverpool, March 17, 1851.

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MONTHLY RETURN of EMIGRATION from the Ports of the United Kingdom at which there were Government Emigration Officers, for the Years 1847, 1848, 1849 and 1850.

LONDON

	1847.					1848.					1849.					1850				
	United States.	British North America.	Australian Colonies.	Other Places.	Total.	United States.	British North America.	Australian Colonies.	Other Places.	Total.	United States.	British North America.	Australian Colonies.	Other Places.	Total	United States.	British North America.	Australian Colonies.	Other Places.	Total
January	83		69	142	296	106	—	337	106	671	840	—	1,001	243	2,087	913	—	666	847	1,137
February	73		136	182	594	200	—	746	294	1,447	694	—	1,756	228	2,678	493	—	666	484	1,643
March	672	64	49	149	963	592	94	754	328	1,768	1,080	91	2,140	430	4,476	1,089	40	945	304	2,378
April	1,211	249	200	167	1,827	2,324	270	894	1,454	4,737	2,301	320	1,262	373	4,256	1,573	270	547	424	3,123
May	1,458	675	190	178	2,501	1,625	916	1,010	510	3,472	2,350	100	1,323	334	4,101	1,083	332	640	376	2,423
June	1,010	488	1,025	215	3,355	905	149	1,480	285	2,820	1,937	97	1,503	622	4,553	1,520	6	761	554	2,830
July	1,453	380	191	253	2,177	1,145	206	1,610	226	3,186	1,311	54	1,528	337	3,230	546	101	613	670	2,230
August	1,233	73	173	320	1,827	1,694	103	1,765	285	3,847	1,048	182	1,332	757	3,319	1,165	119	918	784	2,986
September	1,836	18	200	280	1,532	1,420	7	1,628	387	3,790	1,186	4	1,132	375	2,696	945	28	1,047	636	2,652
October	863	5	273	269	1,209	675	11	1,195	233	3,214	929	73	1,126	502	3,330	947	10	630	315	1,902
November	940	2	261	180	1,037	645	—	1,365	239	2,143	778	—	1,016	514	2,308	453	127	321	508	1,284
December	180		264	356	810	406	1	2,344	370	3,121	155	—	737	178	1,100	274	—	303	370	1,036
Total	10,164	2,128	3,606	2,681	17,374	12,373	1,119	15,918	6,327	32,736	14,223	927	16,960	4,901	36,553	10,960	1,087	8,395	5,270	25,250

LIVERPOOL.

January	4,062	—	—	16	4,078	3,336	4	—	65	3,395	6,710	—	—	10	6,738	7,220	10	160	65	7,474
February	8,247	4	—	92	8,279	7,064	—	14	62	7,136	12,381	5	—	66	12,841	9,248	—	—	84	9,332
March	17,922	370	—	54	17,646	14,126	84	—	46	14,256	18,807	61	101	41	19,051	16,645	80	197	502	17,352
April	14,271	10,178	—	28	24,477	15,462	360	—	95	15,917	18,418	1,014	—	83	19,515	16,580	1,113	95	310	18,053
May	18,461	6,462	6	36	18,963	13,427	393	40	84	13,944	18,864	1,429	—	134	19,701	16,744	1,335	146	63	18,285
June	8,843	6,419	4	20	15,306	8,521	1,397	12	71	10,020	12,145	1,492	200	31	13,931	12,412	577	60	258	13,257
July	5,829	3,573	—	17	10,119	3,546	59	—	185	8,290	9,938	484	—	60	7,344	11,946	856	141	138	12,781
August	6,229	857	4	37	7,517	16,872	321	5	20	10,220	12,253	198	149	56	12,656	14,557	305	12	264	15,088
September	7,183	512	—	20	7,715	11,957	97	20	166	12,240	10,886	61	—	185	11,032	16,476	234	89	20	16,819
October	8,876	4	—	67	8,897	13,279	30	19	189	14,217	13,543	6	143	171	13,863	20,116	64	132	111	20,423
November	5,743	2	3	93	5,841	13,184	2	103	193	13,482	11,493	3	9	53	11,478	15,509	—	40	73	15,622
December	4,449	2	—	15	4,477	5,982	—	—	234	7,221	7,366	19	69	42	7,496	11,297	—	291	119	11,819
Total	103,665	30,337	17	447	134,523	127,499	2,160	220	1,425	131,153	147,745	4,636	673	954	153,963	169,751	4,202	1,116	1,772	174,157

PLYMOUTH.

January	—	—	201	—	201	—	—	140	—	143	—	—	—	1,237	—	1,237	—	—	264	91	355
February	—	—	—	—	—	—	85	127	—	282	—	—	—	833	—	833	—	—	404	73	477
March	—	—	328	—	328	—	—	460	—	460	—	—	—	1,895	26	1,921	267	—	695	—	1,112
April	—	272	111	—	383	—	274	180	29	1,184	—	736	—	1,605	—	1,743	—	728	1,285	97	2,110
May	353	115	733	—	1,206	—	—	171	—	171	—	102	—	1,005	105	1,110	—	—	590	—	595
June	—	320	124	—	480	—	291	210	—	1,037	—	810	—	809	—	809	—	—	271	—	271
July	—	189	237	—	426	—	111	670	—	787	81	248	—	1,553	52	1,124	—	147	216	206	565
August	—	270	164	—	434	—	99	560	—	659	40	73	—	2,100	—	2,213	—	158	188	8	353
September	—	—	174	5	179	—	—	1,151	—	1,151	—	—	—	937	4	941	—	—	310	186	496
October	—	—	210	153	363	—	—	746	—	746	—	—	—	1,557	129	1,686	—	—	506	96	602
November	—	—	359	—	359	—	—	710	—	710	—	—	—	765	50	815	—	—	758	138	896
December	—	—	330	133	463	—	—	1,277	—	1,277	—	—	—	1,628	168	1,796	—	—	303	—	303
Total	353	1,162	3,255	291	5,651	—	960	7,514	195	8,500	121	1,171	14,106	365	15,189	287	1,035	6,314	750	8,204

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Monthly Return of Emigration from the Ports of the United Kingdom at which there were Government Emigration Officers, &c —*continued*

GLASGOW AND GREENOCK.

	1847.					1848.					1849.					1850.				
	United States.	British North America.	Australian Colonies.	Other Places.	Total.	United States.	British North America.	Australian Colonies.	Other Places.	Total.	United States.	British North America.	Australian Colonies.	Other Places	Total	United States.	British North America.	Australian Colonies	Other Places.	Total.
January	6	..	16	20	42	112	—	—	2	114	121	—	—	18	139	61	—	—	10	94
February	95	—	—	2	97	436	—	—	2	440	415	—	—	13	428	—	—	—	—	Nil.
March	703	123	—	17	843	171	50	—	11	232	880	116	—	—	1,004	745	101	—	145	991
April	1,174	268	—	10	1,452	1,102	321	64	3	1,490	2,311	831	111	6	3,259	2,353	240	71	67	2,634
May	608	774	—	11	1,393	737	151	50	15	973	2,315	669	78	11	3,073	2,813	240	15	7	3,081
June	333	861	20	16	1,230	1,286	647	9	7	1,949	1,753	1,535	65	6	3,359	1,307	1,173	84	7	2,571
July	205	957	—	14	1,176	897	614	—	9	1,520	717	521	68	13	1,319	796	414	16	8	1,234
August	139	237	—	21	397	667	413	—	6	1,086	766	407	—	7	1,179	894	289	—	7	1,190
September	221	—	30	13	273	911	6	62	6	986	695	10	249	16	970	902	10	64	13	989
October	73	5	—	24	102	836	—	—	17	947	243	—	—	36	281	899	1	7	24	931
November	82	4	248	58	372	484	—	—	4	492	870	—	70	129	973	854	—	66	67	740
December	95	—	—	14	109	146	3	62	14	227	5.8	—	28	10	276	191	—	—	11	192
Total	3,928	3,207	314	206	7,796	7,240	2,426	249	99	10 035	10,636	3,501	669	269	14,806	12,431	2,483	310	381	14,425

DUBLIN

January	—	—	—	—	Nil.	—	—	—	—	Nil.	—	—	—	—	Nil	—	—	—	—	Nil.
February	168	—	—	—	168	126	—	—	—	126	773	—	—	—	773	926	—	—	—	926
March	664	—	—	—	664	3-7-40	—	—	—	1,240	1,848	—	—	—	1,848	854	—	—	—	854
April	434	2,087	—	—	2,521	1,377	180	—	—	1,559	1,102	894	—	—	1,996	1,750	420	—	—	1,920
May	528	2,967	—	—	3,317	957	—	—	—	957	708	450	—	—	1,248	1,249	665	—	—	904
June	524	1,286	—	—	1,910	592	186	—	—	778	611	304	—	—	1,125	695	361	—	—	1,060
July	810	812	—	—	1,624	402	—	—	—	402	466	642	—	—	1,108	223	153	—	—	376
August	—	—	—	—	Nil.	174	—	—	—	174	559	—	—	—	559	813	—	—	—	813
September	—	—	—	—	Nil.	765	—	—	—	765	560	—	—	—	560	1,179	—	—	—	1,175
October	16	—	—	—	16	702	—	—	—	702	657	—	—	—	657	281	—	—	—	281
November	—	—	—	—	Nil.	606	—	—	—	606	534	—	—	—	534	565	—	—	—	665
December	—	—	—	—	Nil.	257	—	—	—	257	236	—	—	—	236	553	—	—	—	553
Total	2,480	6,082	—	—	9,160	7,303	317	—	—	7,620	7,661	2,290	—	—	9 951	8,938	1,930	—	—	7,390

BELFAST.

January	103	—	—	—	103	61	—	—	—	61	185	..	—	—	185	177	..	—	—	177
February	486	—	—	—	486	916	—	—	—	916	350	—	—	—	350	147	—	—	—	147
March	743	—	—	—	743	1,535	—	—	—	1 535	1 342	—	—	—	1,342	746	—	—	—	746
April	971	2,503	—	1	3,471	831	321	—	—	1,152	1,760	683	—	—	2,443	303	—	—	—	303
May	770	2,116	—	—	2,886	843	364	—	—	1,207	1,071	313	—	..	1,384	840	1,203	—	—	2,054
June	484	1,570	—	—	1,954	430	665	—	—	1,101	736	1 1005	—	—	1,810	525	127	—	—	652
July	—	640	—	—	640	224	675	—	—	899	956	—	—	—	956	—	200	—	—	200
August	—	473	—	—	473	—	102	—	—	102	439	277	—	—	716	706	110	—	—	116
September	321	—	—	—	321	906	—	—	—	906	493	—	—	—	493	492	—	—	—	492
October	201	—	—	—	201	387	—	—	—	387	246	..	—	—	246	264	—	—	—	264
November	—	—	—	—	Nil.	761	..	—	—	761	211	—	—	..	211	306	—	—	—	306
December	—	—	—	—	Nil.	455	—	—	—	455	54	—	—	..	54	295	—	—	—	295
Total	3,098	7,099	—	1	10 198	6,600	1,636	—	—	8,736	7,134	2,019	—	—	9 153	4,155	1,779	—	—	5,970

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LIMERICK.

	1847					1848					1849.					1850				
	United States.	British North Americn.	Australian Colonies.	Other Places.	Total.	United States.	British North Americn.	Australian Colonies.	Other Places.	Total.	United States.	British North Americn.	Australian Colonies.	Other Places.	Total.	United States.	British North Americn.	Australian Colonies.	Other Places.	Total
January					Nil					Nil.	143				143	122				122
February	66				66					Nil.	134				Nil	134				134
March	109				175	177					327	395			722	161				161
April	594	2,641			3,225	385	3,050			3,435	733	2,749			3,482	597	2,312			3,236
May	638	3,071			3,709	334	1,586			1,920	542	1,915			2,457	1,388	1,721			3,109
June	317	1,753			2,070	199	998			1,197	406	1,280			1,686	203	692			895
July	124	998			1,122	86	630			716	213	618			725	93	571			1,466
August		1,234			1,234		289			289	210	585			1,075	197	1,192			1,389
September	88	137			225	259				259	264				264	307				307
October						289				289						289				289
November					Nil	717				717	128				128					Nil
December					Nil.	346				346	370				370					Nil
Total	2,336	9,842			11 732	2,777	6,854			9,631	3,825	7,729			11,554	4,214	6,444			10,658

CORK.

January					Nil	176	2			177	26				26					Nil
February					Nil					Nil.	267			9	276	286				286
March	734	120			854	1,313	395			1,711	1,477				1,477	806				806
April	1,471	4,468		1	5,940	2,386	1,203			3,606	1,874	1,928			3,802	1,203	504		2	2,009
May	1,139	4,237		9	5,376	1,312	491			1,803	1,033	291			1,324	1,183	441			1,624
June	441	3,599			4,040	823	483		1	1,307	1,239	339			1,567	707	258			965
July	158	988	285	3	1,434	327	360			687	703	116		4	823	638	237			875
August	61	584		4	649	141	19			159	44	101			145		133			133
September	93				93	648				648	265				265	546	338			884
October	93				93	293				293	328				328	156				156
November	76				76	690				690	264				264	250				250
December		3			3	669			4	673	241				241					Nil.
Total	3,270	13 980	285	17	18,631	8,080	3,491		5	11,627	7,840	1,869		9	9,721	5 928	2,071		2	8,000

LONDONDERRY

January	37				37					Nil					Nil					Nil.
February	109				109					Nil	56				56					Nil.
March	1,214				1,214	1,312	319			1,631	1,590	246			1,836	7,795	354			354
April	4,304	2,233			6,537	1,448	214			1,662	1,259	328			1,587	803	320			1,123
May	1,961	1,006			2,967	1,402	349			1,751	1,211	243			1,454	709	240			949
June	853	1,780			2,633	570				570	636	250			886	682	109			791
July	136	749			885	371	226			597	634	148			782	658	43			699
August	174	324			498	350	24			374	415				415	113	63			176
September	119	49			168	170				170	155				155					Nil.
October	113				113					Nil					Nil.	173				173
November					Nil.	900				265	230				230					Nil
December					Nil	485				485					Nil					Nil
Total	9,711	9,674			18 385	6,843	1,132			7,531	6,866	960			7,816	3,364	639			9,142

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SLIGO AND OUTPORTS.

	1847					1848.					1849					1850.				
	United States.	British North America.	Australian Colonies.	Other Places.	Total	United States.	British North America.	Australian Colonies.	Other Places.	Total.	United States.	British North America.	Australian Colonies.	Other Places.	Total.	United States.	British North America.	Australian Colonies.	Other Places.	Total.
January	..	..	..	..	Nil.	..	..	..	..	Nil	..	..	..	..	Nil	..	..	..	..	Nil.
February	..	..	..	..	Nil	..	..	..	..	Nil	..	..	..	..	Nil.	136	..	..	..	136
March	175	418	..	..	593	..	72	..	..	72	428	81	..	..	509	284	..	..	..	284
April	374	2,165	..	..	2,539	1,011	..	..	..	1,011	685	743	..	..	1,428	77	476	..	..	553
May	174	3,139	..	..	3,310	316	576	..	..	1,292	53	712	..	..	765	..	540	..	..	540
June	374	3,703	..	..	6,305	116	202	..	..	318	162	165	..	..	337	..	233	..	..	233
July	99	1,739	..	..	1,838	..	..	..	..	Nil	244	166	..	..	306	..	..	..	..	Nil.
August	..	642	..	..	642	..	..	..	..	Nil.	213	379	..	..	592	281	136	..	..	417
September	..	171	..	..	171	123	..	..	..	123	..	..	..	..	Nil	..	..	..	..	Nil.
October	..	470	..	..	470	..	..	..	..	Nil	..	..	..	..	Nil.	..	..	..	..	Nil.
November	..	..	..	..	Nil	..	..	..	..	Nil.	..	..	..	..	Nil.	231	..	..	..	231
December	..	..	..	..	Nil	102	..	..	..	102	..	..	..	..	Nil	..	..	..	..	Nil.
Total	1,146	11,804	..	..	16,057	747	2,361	..	..	3,078	1,865	2,313	..	..	3,078	1,609	1,385	..	..	2,494

WATERFORD AND NEW ROSS.

January	..	..	..	..	Nil	..	..	..	..	Nil	120	..	..	..	120	..	..	..	..	Nil
February	110	..	..	..	110	..	..	..	..	Nil	20	..	..	..	20	..	..	..	..	Nil.
March	127	..	..	..	127	731	..	..	..	731	945	411	..	..	1,356	382	..	..	..	382
April	248	1,916	..	..	2,164	475	1,274	..	..	1,749	726	2,162	..	..	2,888	366	1,582	..	..	2,348
May	851	4,688	..	..	5,539	197	256	..	..	453	178	1,647	..	..	1,817	340	760	..	..	900
June	56	1,223	..	..	1,278	70	303	..	..	373	..	551	..	..	551	..	574	..	..	574
July	97	634	..	..	731	..	54	..	..	54	..	43	..	..	43	45	547	..	..	592
August	..	61	..	..	61	..	41	..	..	41	..	228	..	..	228	147	431	..	..	578
September	..	..	..	..	Nil	..	..	..	..	Nil	..	..	..	..	Nil	174	..	..	..	174
October	..	..	..	..	Nil	..	..	..	..	Nil	..	..	..	..	Nil	73	..	..	..	73
November	..	..	..	..	Nil	145	..	..	..	145	..	..	..	..	Nil	193	..	..	..	193
December	..	..	..	..	Nil	..	..	..	..	Nil	129	..	..	..	129	262	..	..	..	262
Total	1,241	8,316	..	..	9,756	1,631	2,428	..	..	3,446	2,117	5,827	..	..	7,764	1,787	4,105	..	..	5,892

SUMMARY FOR THE YEAR.

London	10,164	3,123	3,000	2,681	17,974	12,373	1,719	15,319	3,327	32 738	14,226	927	18,660	4,891	38,353	10,986	1,167	8,306	5,075	25,350
Liverpool	104 595	30 337	17	443	134 992	127,496	2,093	295	1 258	131,132	142 745	4,630	572	894	153 902	108,109	5 232	1,104	1,772	174,217
Plymouth	303	1,152	3 256	691	5,051	930	7,314	193	8,306	161	1 171	14,166	585	15 883	297	1,835	6 214	758	8,244
Glasgow and Greenock	8,328	8,257	338	203	7,726	7 240	2-456	846	99	10 035	13 836	3,361	893	286	14,986	11,431	2,465	316	281	14,425
Dublin	6,468	6,672	..	..	13,166	7,363	317	..	..	7,680	7,891	2,236	..	..	9 561	5,938	1,438	..	..	7,376
Belfast	3,938	7,061	..	1	11,000	1,809	1,930	..	..	3,739	2,104	3-116	..	..	5,220	4,436	1,135	..	..	5,571
Londonderry	8,711	6,574	..	..	12,286	6,343	1,186	..	..	7,531	5,548	871	..	..	7,015	5,304	826	..	..	6,132
Sligo and Outports	1,146	11,804	..	..	13 950	747	2,331	..	..	3,078	1 865	2,313	..	..	3 576	1,609	1,395	..	..	2,494
Limerick	9-0-8	8 642	..	..	11,738	2,777	8,124	..	..	9 401	3 823	7,723	..	..	11,554	4,714	8,444	..	..	16,658
Cork	4,270	15,900	264	17	18 451	8,600	3,641	..	6	11,927	7 846	1,589	..	6	9-721	6-628	2,071	..	3	8,703
Waterford and New Ross	1,241	8,316	..	..	9,756	1,631	2,428	..	..	3,446	2,117	5 827	..	..	7,144	1,787	4,125	..	..	5,892
Grand Total	135,988	131,895	6,873	3 636	280,881	180 760	24,496	26,771	4,830	235,080	209,721	33,922	20,975	6,436	281-047	214,028	27,663	10,263	9,075	260,429

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Official Information, Letters, Returns, &c.

A STATEMENT of the IMPORT and EXPORT TRADE of IRELAND with the BRITISH COLONIES in NORTH AMERICA, and with the UNITED STATES of AMERICA, respectively, in the Year 1850.

TRADE BETWEEN IRELAND AND THE BRITISH NORTH AMERICAN COLONIES.

IMPORTS INTO IRELAND.

Principal Articles.	Quantities Imported in 1850
Corn, *viz.*, wheatmeal and flour . . Cwts.	2,961
Fish of British taking . . . . . ,,	13,661
Oil, train, or blubber . . . . . Tuns.	28
Wood and timber, not sawn or split . Loads	41,880
,, Sawn or split . . ,,	53,005
,, Staves . . . . ,,	6,839
,, Lathwood . . Fathoms	282

EXPORTS FROM IRELAND.

1. Foreign and Colonial Merchandise.

Principal Articles.	Quantities Exported in 1850
Pork . . . . . Cwts.	600
Spirits, brandy . . . . . Gallons	1,357
Wine . . . . . ,,	899

EXPORTS FROM IRELAND.

2. Produce and Manufactures of the United Kingdom.

	Declared Value of the Exportations in 1850
	£.
Beer	866
Coals	481
Copper	459
Cordage	2,772
Cotton manufactures	63
Iron, wrought and unwrought	3,567
Leather ,, ...	81
Linen manufactures	576
Salt	923
Spirits	327
Woollen manufactures	48
Other articles	2,503
Total	12,566

TRADE BETWEEN IRELAND AND THE UNITED STATES OF AMERICA.

IMPORTS INTO IRELAND.

Principal Articles.	Quantities Imported in 1850
Bacon . . . . . Cwts.	7,464
Cheese . . . . . ,,	13
Corn—Indian Corn . . . . . Qrs.	112,526
,, Wheatmeal and flour . . . Cwts.	12,369
,, Indian meal . . . . . ,,	468
Lard . . . . . ,,	890
Pork, salted . . . . . ,,	4,655
Rosin . . . . . ,,	7,990
Tobacco, manufactured, and cigars . lbs.	11
Wood and timber, *viz.*, staves . . Loads	852

EXPORTS FROM IRELAND.

1. Foreign and Colonial Merchandise.

Principal Articles.	Quantities Exported in 1850
Wine . . . . . Gallons	235

EXPORTS FROM IRELAND.

2. Produce and Manufactures of the United Kingdom.

	Declared Value of the Exportations in 1850
	£.
Cotton manufactures	322
Iron, wrought and unwrought	43,990
Linen manufactures	7,271
Salt	4,454
Spirits, Irish	2,931
Other articles	4,009
Total	62,976

Office of the Inspector-General of Imports and Exports, Custom House, London, March 28, 1851.

W. IRVING.

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APPENDIX IV.

MISCELLANEOUS LETTERS, REPORTS, &c.

Copy of Report of Captain WOLFE, *dated October 1, 1849.*

THE fitness of Valentia as a station for the Western packets has long been the subject of discussion, but hitherto its merits must have been more a matter of speculation for want of an accurate survey of the harbour to permit of a correct judgment being arrived at on the subject. This being now completed, we can enter more fully into the objections which have been made against it.

But, in the first place, to dispose of the geographical question; if one great object is the reduction of the sea voyage, with its comparative greater uncertainty and risk, we need enter into no argument, as it can be easily shown to be the nearest port to America.

Two principal objections have been raised, viz., the narrowness of the entrance and its limited extent. The latter admits of demonstrable refutation, and if it can be shown that it possesses sufficient area of deep water for all the steamers in the navy, that objection will at once be set aside, and such will be seen to be the case, on reference to the plan. Its capacity is, therefore, more than sufficient for all the packets that could be required, the shelter, from all points, not to be surpassed in any harbour, and the holding-ground of the best description—mud and sand.

With regard to the difficulty of the entrance, which is more a matter of opinion, let it be admitted that it is narrow—only 180 yards, yet this breadth does not continue more than a vessel's length, and the passage of this critical part is so momentary that its difficulty and danger are much diminished; although, in heavy north-west gales, there will appear from outside a line of breakers across the entrance, yet a well-conditioned steamer may safely be carried through, and a good leading-mark may be easily established which may be fearlessly run upon. I have watched it in heavy weather, and never saw a continuous break. It is matter of doubt whether the passage of the Needles now used is not, in the whole, more difficult and intricate than this entrance. The shore, being low, admits of a true and steady breeze, which is greatly in favour of sailing-vessels coming in. This very narrowness effectually prevents any sea from passing the two points, so that immediately on passing the lighthouse you are at once in smooth water and safety. A boat may pass from Valentia shore to Beguis, in the heaviest gale, and it is matter of fact that the ferry-boat from Reenard Point to Knightstown, badly found as she is, has been able to make her trips throughout the winter with the mail, with only three exceptions, during the last sixteen years.

As a landfall, Valentia has great advantages in the Skelligs, on the one hand, and the Blasketts on the other; both are free from outlying dangers, and may be boldly run for. The Skelligs are already lighted, and if a revolving light could be placed on the F, which is much wanted for the trade of the Shannon, the approach would be perfect. It has been objected that the great depth of water so close home to the shore, does not give sufficient indication of its proximity by the lead; but the edge of 100 fathoms' soundings is a well-defined line, at a distance of about 25 miles to the westward of the Foze, and a depth of 45 fathoms would warn vessels of being within the line joining the Foze, and the Great Skellig.

The entrance to Valentia is well marked by nature, and the lighthouses on Cromwell's Point points it out more clearly on a nearer approach. The tides are regular, and not strong, never exceeding 1¾ knots at springs in the Narrows; the spring rise is from 11½ feet to 12 feet. Building materials are abundant, of a very durable compact conglomerate, and the slate quarries of this place are well known to be unsurpassed.

Among the improvements I would suggest, the chief is to subdue the light on Cromwell's Point, in the direction across the entrance, by ground-glass or otherwise. At present, owing to its being so close to the water, the glare from it dazzles more than assists at the moment of taking the Narrows. Secondly, the Harbour Rock affords a base 70 feet by 20 feet, sufficient for a small light tower, which, with a similar one on the back land, would form an excellent leading mark, and need only be used on occasions likely to require them. Thirdly, three buoys are wanted; one at the Clough-a-Vallig, at the entrance, one on the Fourteen Foot Rock, and one at the Foot Rock. It is not now the object to enter into a detail of all the requisite improvements which would naturally suggest themselves if the harbour should ever be used as a packet station.

I have not spoken of Lough Kay, but a glance at the plan will show that with the usual aids to navigation, beacons and buoys, the passage through it up the Cahirciveen River, might be greatly improved; and this is, indeed, the true exit of that river, avoiding the Bar, which extends from Reenard Point to Church Island. Vessels would find shelter under the Lamb Island and Blackrock, but the bottom is sandy, and the holding-ground not good.

Port Magee, the western entrance, in its present state, would afford shelter and safety to a large steamer inside Reemaheragh Point, and the passage to the Foot Point at the back of the island may be much improved by blasting some of the rocks which now render it so narrow and tortuous. Still, the fact of 8 feet to 9 feet low-water springs, which obtains for a considerable distance between the island and the main, must always render this passage dependent on the tide. Port Magee should never be attempted by sailing-vessels but with the wind fairly in;

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Miscellaneous Letters, Reports, &c.

with north-west winds it is unsafe, because, on passing Bray Head, the wind baffles with squalls, and the depth of water is too great for anchorage.

It may not come within my province to touch on engineering matters, military or civil; but I think it will be found that Valentia admits of being very strongly fortified as a military post; and for railway communication, the only difficulty appears to me to be about three miles along the shore of Dingle Bay, in the whole line to Killarney, to which point it is understood the Southern and Western Company are now about to complete the line from Mallow.

Rear-Admiral Sir Francis Beaufort, K.C.B., Hydrographer.

JAMES WOLFE, *Commander and Surveyor.*

Argument for Valentia Harbour as a Packet Station and Depôt for Troops, &c., by the late Right Hon. M. Fitzgerald, Knight of Kerry.

IN advocating in the following pages a Packet Station on the Western Coast of Ireland, for communicating between Great Britain and our North American colonies and United States, I have argued that our case does not rest solely on the unquestionable benefits which would result to Europe, in point of speed and security for letters and passengers, by such an establishment; but I have endeavoured to show, that by connecting the two nearest points at either side of the Atlantic, viz., Valentia and Halifax, by a *steam ferry* in the hands of Government, the most important advantages would arise, tending to secure the tranquillity of Ireland and our colonies—to improve the political, civil, and military relations between Great Britain and Canada—and by combining with a packet station a depôt for war steamers, and a place of embarkation for troops, giving a security against a Joinville or Yankee invasion to our western coast, where invasion is most likely to be attempted.

In selecting one from the various competing harbours of our western coast, I am aware that I am open to the charge of being guided in my choice by interested motives; but while I admit my natural partiality for Valentia, I think I have rested her claims on arguments not unsolid at least, and on public grounds not unimportant. I have likewise brought forward a body of evidence in her favour, both documentary and personal, of which it is equally impossible to doubt the competency as to deny the impartiality; so much so, that it appears to me very difficult for the advocates of any competing harbour in the teeth of such evidence to show cause why Valentia, placed by Nature on the "*brim of the ocean*" (as Mr. Cobden well describes it) should be passed by to seek a harbour more remote. Their case, like mine, must be that of Western *v.* Eastern Harbours, and they must make out a very damning case of disqualification, and prove it in despite of the evidence here adduced, ere they can be justified in overlooking the *most* westerly harbour, not of Great Britain alone, but of Europe, and adjudging the preference to one in a position (be it ever so little) more easterly.

In these days when the commerce of England and America times the arrival of travellers and letters from the more distant quarters of the globe, not by months or weeks, but by hours, nay, almost by minutes, it does not require any prolix argument to enforce the abstract principle upon which the case of a Western *v.* an Eastern Packet Station rests, viz., that it is desirable to travel as far as you possibly can by land and to shorten to the utmost the sea voyage; in other words, that where celerity and punctuality are of the greatest importance, it is desirable, as far as you can, to proceed by rail at a speed of from 30 miles to 50 miles an hour, and to defer, as long as you can, resorting to sea steaming, which, at best, and under the most favourable circumstances, cannot exceed 10 miles to 12 miles, and that speed too liable to diminution by many and various causes.

The relative distances are—

	Miles.
Halifax to Falmouth . . .	2642
" Valentia	2400
" Bantry	2437
" Tarbert in the Shannon .	2441
" Galway	2462

The counterbalancing disadvantages and inconvenience should, therefore, be very great to prevent, with the present tendencies of the locomotive world, the acting on this principle in the case at issue. Let us consider fairly what those disadvantages are. There is no question that the British or American traveller, bound across the Atlantic and destined for the manufacturing districts of England, will feel some reluctance at leaving his ship at Valentia to cross Ireland and again take steam at Dublin to pass over to Liverpool. Against this inconvenience (which, beside, diminishes as you improve in railway travelling) must be set, 1st, the time saved, which would be at least 24 hours, a matter of some importance to commercial men. 2nd. The risks and difficulties of Channel navigation, especially in winter. These may be enumerated as arising, first, from collision at sea, a danger which increases with the increase of navigation; secondly, from lee shores, fogs, and currents, peculiarly incident to the Channel; but the amount of the risks of Channel navigation can be most convincingly tested by insurance companies, who can bear witness to the vast proportion of losses on the voyage from America to Liverpool chargeable to the Channel. The American traveller, too, counts the perils of the voyage as nothing till he finds himself in the narrow British seas, and at his return reckons the voyage half over when he has reached the longitude of Cape Clear.

But whatever may be the difference of opinion as to the landing passengers at Valentia, there can be none as to that of letters; dropped there, letters can proceed by the speediest

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means [we here suppose, of course, a railway], and the most direct route to every part of the United Kingdom, as, in the case of the passengers, a letter destined to Liverpool by way of Valentia would gain 24 hours on that which went by sea the whole way; but supposing this last letter, instead of proceeding direct to Liverpool, to be (as is now the case) passed through some southern post-office, such as Falmouth, you greatly enhance the disadvantage; you oblige the letter to travel two sides of an acute-angled triangle instead of its base. The same consideration applies to every English post-office as well as Falmouth, in a degree proportioned to its easting, and it is not to be supposed that the commercial world will always continue satisfied to send their letters by a more circuitous route and a slower rate of travelling, instead of by a direct route and the highest rate of travelling attainable. All that has been said above, relating to inward-bound passengers and letters, applies in a much stronger degree to those outward bound for the Atlantic, inasmuch as the 400 miles of navigation incurred by not departing from Valentia are all against the prevailing head winds, and, therefore, a greater number of hours are lost; the steamer lays at Valentia ready for sea, awaiting the arrival of the mail-bags and passengers. If it is possible for a vessel to lie at sea, she can leave Valentia at a moment's notice. Clear of the harbour, she is in the ocean, disentangled from lee shores, and steering direct for Halifax, free from the most serious dangers incident to navigation. Compare the case of such a steamer from Valentia with that of one starting from her most talked-of rival, Bantry (for the impossibility of getting a railroad to Berehaven will not allow of its very fine harbour being availed of for a packet station, however suitable it may be in many respects to naval purposes, without reference to land communication). The Bantry steamer has to work out of a bay of 37 miles in depth, and that 37 miles being (with the prevalent winds) entirely lee shore of a very formidable description; but even at the end of that 37 miles she is not on a par with the steamer leaving Valentia, inasmuch as the current called "*Reynells*," scarcely felt at the latitude of Valentia, bears with its full force on the Bantry coast, and there also sea fogs are more prevalent.

These arguments apply more strongly against Galway on the Shannon, which, with worse harbours than Bantry, are more remote from Halifax, present to vessels, whether outward or inward bound, a great extent of peculiarly dangerous lee shore, rocky and iron bound, and in the case of the Shannon currents, of great violance, and perplexing even to powerful steamers. These evils Valentia almost entirely escapes.

But while all must admit its advantageous position, in fact, she is placed at the very spot where the most experienced naval skill would have wished for a harbour had none existed, yet her intrinsic merits have been, I think, unjustly questioned. I have no wish to evade or understate the objections. I believe they are mainly these, that her entrances are narrow, and the extent of anchorage not very great. In the first place, I would observe, that placed as she is in the Atlantic, had her entrances been much wider there would have been no harbour, the ground swell from the ocean would then have rendered her as insecure as the many other indentures on the coast, Galway for instance, instead of being, as she now is, as free from ground swell in the severest storms as any inland lake. Secondly. That the narrow entrance is merely caused by *points* of land, clear of these points the water widens both within and without; that these points are of so short an extent, that (as an experienced sailor expressed it) they can be passed by "backing and filling," and thus even in the case of a sailing vessel and an adverse wind there is not much difficulty, and for steamers no difficulty at all. Thirdly. That considered as a *harbour of refuge*, this narrowness of entrance, well marked as it now is by a lighthouse, is of no disadvantage even to sailing vessels, for with the prevalent and most violent gales the wind is free, while for steamers it has never been considered too narrow. Lastly. The entrance at a trifling expense can, if desired, be increased to half as much more as its present width. In point of extent of *anchorage* no sailor will deny that it is perfectly sufficient for the purposes here sought, further it is capable of increase by dredging; but there is no necessity for the objects here advocated to make it a station for the British navy, which is the difficulty suggested by its opponents. It is fully capacious enough for the squadron of war steamers which I propose. As to the perfect security both in point of shelter and holding ground, there can be no difference of opinion.

But a most important advantage which she possesses over her rivals is, that of being so perfectly marked by the "Skellig Rock," which from its remarkable appearance (rising perpendicularly in 30 fathoms of water to a height of 700 feet), and by its double lighthouses both by day and night, a leading mark for this harbour, from which it stands out in the ocean at a distance of about 12 miles; so peculiar is its position, that it is the point made for by vessels crossing the Atlantic and bound for the Channel, in order to ascertain their whereabouts, and voyagers who are brought within sight of, and hearing that there is an excellent harbour in its immediate vicinity, feel surprise and disappointment at being obliged to pass it by, and (in the case of sailing packets at least) spend days, nay occasionally weeks, in beating up the Channel.

I will now proceed to the consideration of the circumstances which, perhaps, more imperatively than even those relating to post-office or passenger communication, dictate the wisdom of selecting the most westerly harbour in our European dominions for the established point of communication with our transatlantic ports.

The quickest communication which the existing mode affords, viz., by Cunard's vessels, from Halifax to Liverpool, is 9½ days, this, by landing at Valentia, would be reduced, as has already been stated, by 24 hours, to passengers and mail-bags; but when we consider the great importance of conveying colonial or American intelligence as rapidly as possible to the Government offices in London, let us reflect, that by making *Valentia the point of arrival*. by the use of the electric telegraph, intelligence from Halifax may reach Downing-street and the Admiralty in *seven* days.

But let us suppose *that* intelligence requires as its answer a war steamer, whether it is better

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Miscellaneous Letters, Reports, &c.

that that armed messenger should be ready to start from its ocean harbour, 10 minutes after leaving which it is steering its direct and uninterrupted course, or that it should wait the orders of its employers in some deeply-embayed southern harbour of perplexing exit, or in an English port nine degrees to the eastward, emerging from which it may, perhaps (if prevalent winds and Channel fogs and currents do not seriously retard it), reach the longitude of Valentia some two days after the Valentia steamer would have started on its westward voyage.

So much for the rapidity of our communications with our colonies. Now, as to their security, it is obvious that by the selection of the nearest points of communication between our European and colonial dominions, the course of established periodical passengers would not only escape the dangers of lee shores and prevailing currents, but would be as much as possible out of the range of an enemy's cruisers, and remote from an enemy's ports.

It is difficult to exaggerate the advantages derivable to Ireland and Canada from being thus made the starting point for frequent and periodical transatlantic voyages; but in order to extract the full benefits which such a matter is capable of conferring, it is suggested that a Government establishment and not a private contractor should carry it on. That the establishment should consist of at least six steamers of the first class; such vessels, relieved from any modification of huild or size which may be requisite for entering the shoal harbours of the channels or taking the ground, should be constructed on the principle of combining the greatest strength with the greatest celerity, to be armed with the greatest power. It need hardly be argued, that the existence of such an armament passing periodically between Ireland and Halifax would form a basis of naval strength which would give to England a predominance in the North Atlantic. Such an armament, forming a school of hardy seamanship, and worked by officers and men trained to the handling of powerful war machinery, would, if need should arise, supply a ready and economical weapon to its country for any purpose, either of aggression or defence, and at all times furnish a protective shield to our merchant vessels and our commercial interests; yet the ordinary duties of such armament will be pacific, directed to national and colonial objects, and justifiable in our relations to other countries; its passage will be from a domestic harbour to a colonial one, passing along the shores of our own dominions and not approaching the coasts of any other country, neither crossing any of their customary lines of commerce; the most jealous diplomacy could find no fault with such an establishment, but, in fact, we shall only be following the example which other countries are about to afford. France has already furnished a precedent in favour of establishment over contract. She is building war steamers of the largest class to cross the Atlantic as packets, why shall England forego the advantage which the geographical position of her dominions gives her over her great rival, or forget that Valentia is six degrees west of the longitude of Brest, that is, six degrees nearer America?

I recommend the station of such armed squadron to be likewise a depôt for troops, artillery, and military stores, and by selecting for such station and depôt our most westerly harbour, it is obvious they will both be in that position where they will be most available for purposes of national defence and security.

Let us suppose a foreign war. The French attempt at invasion in the winter of 1796 in Bantry Bay, was admitted to be a gross error, and will never be repeated. The rendezvous of the invading force should have been in the Shannon, as pointed out by Napoleon, in which case the French army could have landed. No military or naval man will doubt that in any future attempt either the Shannon, Galway, or Donegal Bay, will be selected as the point of descent, probably more than one of them simultaneously. If any or either of those places be selected as a rendezvous for war vessels for defence, an adequate force must be stationed in each and every one of them to contend against the probable combined force of the enemy, because these stations are so deeply embayed that no reciprocal assistance could be afforded in time to defeat a coup-de-main, which must in all cases be the character of an invasion. It will be, therefore, advisable, that a squadron of steam vessels, for instance, should be so placed as to afford the best means of intercepting an enemy, or pursuing him to his ascertained point of descent; in other words, such position should be to windward of all the places in question. Such a squadron should also be placed in a harbour perfectly defensible from any external force, and yet which it can leave whenever expedient. In any of the cases supposed the invading force must, as it were, pass by the door of Valentia. From no other locality in our dominions could the intentions or motives of a hostile western squadron be so well ascertained and thwarted, and being itself perfectly defensible and easy of egress to steamers, it is pointed out by nature for these several purposes.

If, from a combination of adverse circumstances, an enemy's force succeeded in baffling observation and landed on any part of the west coast of Ireland, the presence of the steam squadron and accumulation of troops at such windward depôt commanding each point of the western coast would furnish the most available attacking force that could be desired in such an emergency.

At the beginning of the last war, the chief efforts for internal defence, such as the construction of barracks for troops on a large scale, &c., were, by a strange practical blunder, applied on the eastern side of Ireland, as if the defence were to be made against England.

Patronage and jobbing were also much concerned in this strange selection, whereas the combination between invasion and insurrection, if such there should be, must always place this danger in the west, and our precautions should be taken in time to prevent the western provinces being made an enemy's country.

The landing of 1050 Frenchman in 1798, aided by an insurrection in Mayo, caused much trouble and some danger, and obliged Lord Cornwallis to concentrate the chief military force of Ireland on the Shannon; what would have been the result if the insurrection had been simultaneous and general?

The selection for the defence of Ireland of a southern or south-eastern steam depôt would be

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a greater blunder; that coast, at least as far west as Berehaven, must be within the range and cruising ground of the Channel squadron, of which probably Berehaven would be one of the stations, and the southern coast of Ireland may safely be intrusted to the guardianship of the British fleet.

Again, to make the western defences of our coast dependant on supplies from Berehaven, for instance, would occasion an unnecessary coast passage of the worst description of 60 miles even to the nearest port, Valentia.

One of the best war steamers was detained in Berehaven in December last for six days, without the possibility of leaving it, but in the same sort of weather she could and did leave Valentia on Saturday, 27th December, for the northward. From Cork the passage would be 100 miles further again, whereas by the establishment of a strictly western depôt for stores, ammunition, &c., Government will be saved the wear and tear, and 300 miles unnecessary voyages of the transport vessels or small steamers which would have to be employed for their convenience.

For the above reasons, I think it will be admitted that the extreme westerly position of Valentia renders her more suitable for the purpose in question; but her claim is very much strengthened by the consideration, that were even the surrounding country in the possession of an enemy, she, by proper means with her supposed depôt of troops and stores, can be rendered impregnable, an advantage denied to most if not all of her rivals. No enemy's vessel from sea could possibly enter the harbour, or if there lie for five minutes, in the face of the guns of the island, and if assailed it must be by boats from the shore of the mainland across the water of the harbour, during which transit they could be blown to pieces from the ground of the island.

In continuing our case of Establishment *v.* Contract, we must also consider that arrangements and communications which may be carried on with tolerable effect and punctuality in ordinary times would be instantly deranged by the breaking out of hostilities; and new engagements and expensive contracts would have to be entered into by Government for keeping up even the ordinary communication with our colonies, at the very moment they would be called upon for extra efforts, and when economy and a rapidity of execution, impossible for private capitalists to achieve, would be most essential; this will all be avoided by the Government establishment I propose.

Although I admit, that in affairs purely commercial, the less we interfere with private enterprise the better, I assert, that in the matter of intercourse with America, political necessities are so interwoven, that in justice to the interests of this country and our colonial possessions, Government must have complete and unfettered control over the mode by which that intercourse is carried on.

There is no doubt that objection will be taken to this course on the ground of economy; but while I conceive that the important objects to be obtained are such as would justify a very considerable expenditure, yet I am not prepared to admit the merit of the present system even in economy.

If to the sum annually paid to the contractors, viz., 160,000*l.*, the frequent items of expenditure entailed by having to equip Her Majesty's vessels for the conveyance of governors, and ambassadors, and reliefs of troops, or any sudden emergency, are added, and if we further consider the great accession to the profits of our mail packets, or to our post-office revenue, from the vast amount of continental, passenger and letter traffic which is certain to ensue by the attraction of such a shortened passage, and security of vessel, we may be permitted to doubt whether there would be any loss whatever.

I have already adverted to the *economy of space* (from the extra accommodation afforded for troops, guns, stores, &c.) to be effected by the largest steamers passing between the nearest harbours, and, therefore, requiring the smallest stowage for fuel; but the *saving of coal* itself will be very great, taking the comparative distances of Liverpool and Valentia from Halifax, there will be found to be a difference of over 400 miles on each trip, that is, in the year (supposing fortnight voyages from each end), a saving of 20,800 miles per annum by steaming from Valentia instead of Liverpool, which, on a consumption of 4 tons per 10 miles, will be a saving of 8320 tons in the year. To this is to be added the wear and tear of vessels on 20,800 miles of superfluous voyage.

Writing hurriedly, and in the absence of official returns, I cannot enter more minutely into this branch of the subject. I am confident, that even on the score of present economy, the nation will gain by the change I propose; but were it not so, we must remember that on some occasions "*Magnum est vectigal parsimonia*," we may some day have liberty to lament that we have been deterred by considerations of sordid penny-wisdom from leaving anything undone which may contribute to secure the independence of our colonies, the safety of Ireland, the inviolability of our commerce and of the correspondence of our great mercantile community, or which may be made available for strengthening England's supremacy on that ocean upon which, if we are to trust the signs of the times, the first storm is about to burst.

As the arguments here advanced relative to Valentia may be considered, and certainly will be represented, as an *ex parte* statement, it is necessary to refer to certain authorities wholly independent of local or personal interest in the question. The first in date may be stated to be the Protector Cromwell; when he had subdued the south-west of Ireland, he established a station at Valentia for vessels of war, and erected forts at each entrance of the harbours (the Spaniards having previously been in occupation of the harbour), and it is clear that Cromwell considered it to be the best harbour from whence to defend the western coast of Ireland.

An association was formed in the year 1824, under the patronage of his Royal Highness the Duke of York, comprehending the names of two of our most distinguished admirals, Sir Pulteney Malcolm and Sir Henry Blackwood, and of several gentlemen of high standing in the mercantile world; after the fullest consideration, and an examination of the best autho-

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Miscellaneous Letters, Reports, &c.

rities, commercial and naval, it was determined to adopt Valentia as the most suitable harbour for colonial intercourse, and an Act of Parliament was obtained for the purpose. The Legislatures of Canada and Nova Scotia sanctioned grants of public money in those provinces to co-operate in the Valentia project; a company was formed in Boston in 1825 to build steam vessels to meet the Valentia steamers at Halifax.

Mr. Macgregor, in his very able work on North America, points out and recommends the communication between Valentia and Halifax as highly important to the mother country and the colonies.

The evidence given on oath before the Commissioners of Revenue Inquiry in 1830, by several distinguished officers and public functionaries, more especially by Capt. Beaufort, R.N., Hydrographer to the Admiralty. *Vide* Parliamentary Papers, "Western Harbours of Ireland," printed 1835, No. 86.

A deputation from capitalists of New York (Messrs. Cruger and Goodline) who examined the harbours of Ireland, with a view to an American packet station, specifically recommends Valentia as the best.

Mr. Cobden, in his remarkable pamphlet, entitled "England, Ireland, and America," quotes from American publications a decided opinion as prevailing in the United States in favour of Valentia, and he powerfully recommends the adoption of a packet station at Valentia, and the construction of a railway from Dublin to that point, expressing his decided conviction, that such a project if completed would secure the preference of voyagers to all parts of North America, not only from Britain but from every quarter of Europe, and would confer the most incalculable advantages upon Ireland, by introducing capital and stimulating industry and enterprise.

The printed letter of Admiral Sir Robert Otway strongly recommends Valentia for a packet station.

Mr. William Cubitt, when consulted by the Dublin and Kingstown Railway Company as to the policy of extending lines through Ireland, expressed his doubts whether mere Irish traffic would pay, but recommended the construction of a line from Dublin to Valentia, with a view to obtain American traffic.

Mr. C. Vignoles, in reference to the eligibility of Valentia Harbour, remarks, "It is a port which nautical men, statesmen, and many acute engineers have, at various times and under different circumstances, and without communication or connexion with, and even without knowledge of, each other, recommended as the most eligible harbour for the foreign arrivals and departures of the United Kingdom. The attention of the Government has often been called to its eligible situation, and the highest naval authorities have given evidence to Parliament of the peculiar combination of advantages which it possesses as a packet station."

Mr. C. Vignoles has also expressed a decided opinion on the facility of railway approach to Valentia.

We have already stated the opinions of our most experienced military and naval authorities in favour of *western embarkation generally*, as given before the Committee of the House of Lords; but the progress of science in other countries has likewise called public attention to this great transatlantic interest. M. Chavalier, in his work on French statistics, points out that Valentia from its position must become the ultimate port of European departure. A similar view is stated in the "Stutgard Quarterly Review" to pervade Germany. The Swedish Minister to England several years ago described this object as anxiously looked for in the Northern States; the transit to America had excited more interest in those countries than in the United Kingdom.

But perhaps the most authoritative tribute to the merits of Valentia as an American packet station is to be found in the hostility of those two great places which emphatically represent the British *adverse interests;* when other places are named, such as Berehaven, or the Shannon or Galway are mentioned, no opposition is raised, no jealousy felt, the profound sagacity of Liverpool knows too well that were Berehaven selected it would by its position be nothing but a mere *touching place* for English packets, but never could become an original and independent point of departure, and would be tributary and subservient to the great English ports. Galway and the Shannon they consider simply impracticable, but at the word "Valentia," Liverpool and its ally, Glasgow, and all Cornwall, are in arms; every sort of influence is brought into action. Such was found to be the case in the Lords' Committee in 1837; the inquiry proceeded quietly until the name of Valentia was mentioned by an engineer. The 12 Cornish members immediately waited upon the Ministers in turn to protest against the *question* of Valentia as a harbour for a packet station *being raised*. Demands were made to be heard by counsel against Valentia before the Committee, which at last broke up in despair at the interminable opposition which was growing up; a most powerful and well-paid agency has been constantly employed by Liverpool against Valentia.

From whence then can all this peculiar and exclusive hostility to a particular point be derived? Valentia is an unimportant place in an unimproved district, does it not distinctly evince a thorough conviction, that, were its natural advantages and position brought into play, serious injury would be done to those great vested interests which now monopolize the passenger traffic between Great Britain and America?

But can it be affirmed that the opposition of even the great north manufacturing district ought to be bowed before in defence of a monopoly which, I think, I have proved to be incompatible with national and colonial interests?

If the question were put to Mr. Cunard himself, "What point in our dominions for the departure and arrival of your packet steamers would you select in order to insure the utmost possible security, rapidity, and economy of intercourse with North America?" May we not venture the assertion that his answer would be Valentia?

Is Liverpool not aware that the central manufacturing districts of England, weary of the

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tortuous and expensive exit afforded them by the Mersey, are beginning to seek other channels for their exports, or that some of the monied interests of Birmingham have selected Valentia for the terminus of a great western line of railway with which they have connected themselves?

In fine, may we not believe that the great body of enlightened merchants and manufacturers will feel, that affording the greatest possible amount of security, rapidity, and punctuality to their intercourse with their most important correspondents or customers, is a matter of no slight moment to their own interest, or that what is proved to be best for the empire at large will ultimately be best for Liverpool and Glasgow.

(Signed) M. FITZGERALD,
Knight of Kerry.

AT a Public Meeting held in the town of TARBERT, ROBERT LESLIE, Esq., in the chair, the following Memorial was unanimously adopted.

MEMORIALISTS have observed with much satisfaction that the attention of Her Majesty's Government has been called to the very important question of having it ascertained which is the most suitable position for the establishment of a "Western Packet Station."

Your Memorialists solicit, that before so very important a national question shall be decided upon, that the very great advantages possessed by the harbour of Tarbert for the purpose shall be inquired into, and evidence taken on the subject. Situated as the harbour of Tarbert is, about eighteen miles distant from the Shannon's mouth, its entrance marked by a lighthouse, between which and the mouth of the Shannon there are two other lighthouses; navigation perfectly free, first-rate anchorage both as regards shelter and holding-ground and extent, distant from the city of Limerick (from whence start railroads to Dublin, Cork, and all the principal cities of Ireland) only thirty-five miles, your Memorialists consider it possesses advantages for the contemplated purpose not to be excelled, all points considered, by any other harbour in Ireland.

Your Memorialists beg further to state, that of late years several of Her Majesty's war vessels have been stationed in this harbour, and amongst others the "Madagascar," "Cyclops," "Fox," and "Dragon," besides several others of smaller dimensions. And your Memorialists beg that the officers then in command of these vessels shall be referred to for the purpose of ascertaining their opinions on the suitability of this harbour for the contemplated purpose. It is no uncommon matter to have from thirty to fifty line of merchant vessels lying together in this harbour for refuge.

Signed on behalf of the meeting, October 16, 1850,

ROBERT LESLIE, *Chairman.*

Transatlantic Steam Packet Station, Limerick.

MY LORD, *Town Hall, Limerick, October* 18, 1850.

I AM directed by the Council of the Corporation of Limerick, to request your Lordship's attention to the Memorial which I have the honour to forward, grounded on the proceedings of a numerous and most respectable meeting, held on Wednesday last, pursuant to public requisition.

The eligibility of the port of Limerick for a transatlantic packet station will, it is hoped, be as manifest to the Commissioners in their investigation of the subject, as it has been patent to all scientific men who have examined into the matter. For that investigation it is that the Memorial now submitted prays.

Other localities have impatiently urged their claims upon the Government. Until now, just when the Commissioners are about to commence their labours, Limerick has refrained.

In coming forward now, the hope is confidently entertained that the result will be, that the port of Limerick, which includes the whole of the great estuary of the Shannon, will be pronounced the safest and the most eligible for the establishment of a transatlantic packet station.

I have, &c.,

The Right Hon. Lord John Russell,
First Lord of the Treasury.

LAW. QUINLIVAN,
Mayor of Limerick.

To the Right Honourable the Lords Commissioners of Her Majesty's Treasury.

The MEMORIAL of the MAYOR, ALDERMEN, and BURGESSES of the Borough of LIMERICK, most respectfully showeth,—

THAT the appointment of a Royal Commission to investigate the most eligible port or harbour in Ireland for a transatlantic packet station, has given great satisfaction to this country.

That the port of Limerick, which comprises the great estuary of the Shannon, appears to your Memorialists to possess paramount claims to the selection, its position and capabilities being beyond those of any other port or harbour in the south-west of Ireland.

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Miscellaneous Letters, Reports, &c.

That these claims will he fonnd to he as they are thus described, hy the Commissioners in the progress of their investigation, your Memorialists are confident.

And your Memorialists therefore pray, it may he a direction to the Commissioners to examine into, and to report upon, the eligibility of the Shannon, as the western transatlantic packet station of the empire.

And your Memorialists will pray.

LAW. QUINLIVAN, *Mayor of Limerick.*

Great Southern and Western Railway, Kingsbridge Terminus, Dublin, November 9, 1850.

MY LORD AND GENTLEMEN,

THE puhlic papers having stated that you are about to select a harbour on the coast of Ireland for the packet station to America, I take leave, on hehalf of the Great Southern and Western Railway Board, to suhmit to yon the following ohservations in relation to that suhject.

The Company do not, in the slightest degree, presume to suggest what harbour would he most eligihle, as on this matter you will have before you the best and most impartial information; but there are accessories to several harbours, which are peculiarly in the power of this Company, and which I heg to submit for your consideration.

Cork, the first and most important harbour in Ireland, is a great naval depôt, with every requisite for the repairing of vessels, storage of goods, and accommodation for passengers. The railway from Dublin is not only open to Cork, hut another line has been extended to Passage in the Cove of Cork, and is now in full operation. If this harbour he selected as the packet station, an electric telegraph will he immediately laid down from Duhlin to Cork, and thence to Passage, and every other facility in the power of any railway Company to perform will he afforded hy this Company.

The next harhour is *Crookhaven*, near Cape Clear, to which the Bandon Railway could be extended.

Berehaven, in Bantry Bay, has always heen considered one of the hest harhours in Ireland, for intercourse with America, from its perfect safety, ample accommodation, and good anchorage; and should it he selected, the Killarney Railway can be extended to Berehaven by a hranch from Knockacappal, hy Kenmare, only 49 miles in length; and thus rendering the whole distance from Duhlin to Berehaven but 222 miles.

The merits of *Valentia* harhour are well known, and an Act has heen ohtained for extending the railway from Killarney to that harbour.

The railway is open to *Limerick*, and should the Shannon he selected as a packet harhour, the line can he extended to Tarhert or Foynes, a distance of ahout 27 miles; making the total distance from Dublin to Foynes 156 miles. Limerick has every accommodation in stores and warehouses, and a new dock capahle of receiving large vessels.

The electric telegraph would he common to any of these harhours.

An Act has been ohtained for making a railway from Fermoy to Mallow; and thus the troops from this great military depôt could be sent hy railway to any of the above harhours to he emharked for foreign service.

I have, &c.,

To the Right Hon. the Earl Granville, and the Commissioners for the selection of a Western Harbour for America.

EDWARD MCDONNEL, *Chairman, Great Southern and Western Railway Company.*

To the Right Honourable the Commissioners appointed by Her Most Gracious Majesty, for the selection of the fittest port on the Western Coast of Ireland, for a Transatlantic Packet Station.

MY LORDS AND GENTLEMEN,

THE important inquiry which Her Most Gracious Majesty, under the advice of her Ministers, has heen pleased to intrust to you, interests so deeply this locality, that it will he no matter of surprise to you to find that the most intense anxiety pervades every person here with regard to the result of your investigations as to the fittest port for a medium of intercourse hetween the Old and the New Worlds. In Galway we all regard our future destiny to he intimately depending upon your decision, and the only feature of singularity that appears in this present address is the character and station of the individual who addresses you—for that, however, there are many reasons, and as I happen to represent the feelings, the wishes, and opinions of my fellow-citizens, upon this great and all-important subject, I shall ahstain from any personal explanations at the present, and throw my suhject into that simple form which will enahle English gentlemen of exalted station, of great experience, of unhlemished integrity, and of unhiassed judgment, to decide a point of inquiry whose vast consequences will affect the intercourse of the whole world.

Without donht, men of weight, influence, and station will solicit your attention to other ports, and with all the colouring which eloquence, wealth, and influence can give to any question, will endeavour to dazzle your cool and discriminating minds, and these are the difficulties with which Galway has to contend; and when it is considered that so feehle an advocate is opposed to such a host of talent, eloquence, station, and political

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influence, the cause of my native town seems disadvantageously sustained. when, however, I trust, not to myself, but to my cause, and to the unquestionable shape of simple facts in which I mean to lay it before you who are charged before the world with one of the most important inquiries ever submitted to investigation, I feel the full conviction of the saying, "*Magna est veritas et prevalebit.*"

My Lords and Gentlemen,

Mechanical science has already so harmonised mankind, that the common wish of the Old and New Worlds now calls for a more intimate intercourse than ever existed before, and all men, from Pekin to San Francisco, anxiously turn their eyes to establish the shortest and safest road that may enable them to form a community of interests and civilization among the nations of the globe. The British Islands enjoy the proud pre-eminence of being able to afford the happiest facility for this glorious consummation, and the question for your inquiry is, at what point in the British Islands shall the pivot be placed upon which will turn the bridge that is to unite two worlds.

I, myself, am astonished at finding that the eyes of all are already turned to my native town, and although, with very limited scientific views, I always knew and valued its immense capabilities, I scarcely expected, in my time, to see them attract the universal notice which the interests and keen observations of the most acute inquirers have already brought upon it—to you, however, its advantages, its capabilities, its superior facilities for the vast idea that exists, ought to be juridically, and therefore, coolly and plainly demonstrated, and this is precisely what I propose to do by the chain of evidence which I shall lay before you in the following paper. Without presuming too much, I will suppose that your inquiry will embrace four questions, viz. :—

1st. What port on the west coast of Ireland is the fittest for forming a packet station, first by reason of its proximity to America?
2nd. By reason of its facility of egress and ingress.
3rd. For its security for shipping and accommodation for goods and passengers.
4th. For transmitting intelligence to every part of the British empire.

Every idea connected with the great object of forming a packet station seems included in these four divisions, and I shall briefly lay before you facts and testimonies which I undertake to sustain without dispute, before your tribunal.

1st. The inquiry is entirely limited to the west and south-west coast of Ireland, and it is through Ireland that line must run which is to be the guide and director of the intercourse of the two hemispheres, and steam-vessels flying over the bosom of the vast Atlantic, to bear the earliest tidings of commerce and civilization, will seek a port which they can easily make for in every weather, which exhibits the most distinct evidences of its position so as not to be mistaken, which opens its deep, broad, clear, and unmistakeable entrance, which offers shelter and anchorage that defy danger, and affords to goods and passengers all the accommodation that can be desired for safety and comfort—and Galway is that port.

Galway Bay is estimated to be 2,090 miles from Whitehaven Harbour, near Cape Canso, in Nova Scotia, and the American people, in union with the British colonies, are now absolutely engaged in the execution of a railroad that will bring either Halifax or Whitehaven within 850 miles of New York, and of this 420 are already open, namely, to Waterville, in the State of Maine, and the other 430 miles in preparation of being executed, the surveys being completed. Men of science, eminence, experience, and influence having combined with the legislatures of the different provinces through which it is to run, to effect the one great object of bringing Galway Bay within five days' steam way of the first British colony that is met in America, and through it within seven days at the most, of the commercial capital of the western world! Can this be done at all by communication with any other port? but above all, can it be done with safety to goods or passengers?—that it can be done by and through Galway is attested by the great Convention held in the city of Portland in the State of Maine, in the month of July last, when the representatives of the British provinces, of New Brunswick, Nova Scotia, Newfoundland, Canada, of the States of New England and New York, &c. &c., with scientific men from every part of the vast continent, propounded the vast idea and resolved on its practical execution of uniting the two worlds by a short ferry from Nova Scotia to Galway Bay.

I propose to lay before your honourable Commission the authorized plan and map of this design, and sent to me as chairman of the Galway Packet Station Committee, by the Hon. John A. Poor, of Portland, and printed by authority and at the expense of the legislature of Maine.

And does the Bay of Galway afford the complete facilities for this project? Can a great steamer, running at the rate of 17 or 18 miles an hour, laden with valuable goods and many passengers, hurried along in the boisterous Atlantic by a mad and furious storm, can she enter the Bay of Galway with ease and safety?

And this question brings out the most ennobling qualities that altogether defy comparison with any other bay—this bay opens four capacious mouths to the Atlantic ocean, formed by the three great islands of Arran, placed in their position as a barrier to abate its fury and offer shelter to the weary mariner. These islands lie between Black Head on the south, and Golden Head on the north, they are all inhabited and highly cultivated; between Black Head and the south island, the sound is 5 miles in width, and from 10 to 20 fathoms of water, without a single rock; between the south island and the middle

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Miscellaneous Letters Reports. &c.

island, the passage is 2 miles in breadth; between the middle island and the north island is 1½ miles in breadth, and between the north island and the north shore of the bay the sound is 9 miles in width! The soundings in all these passes, so secure and complete that it is a matter of no consequence which of them a vessel of the greatest tonnage in the most furious storm may run through, as all afford both room and water to enter in safety. I offer to produce the Admiralty survey of the bay, Mr. Nimmo's survey, Captain Bedford, R.N., who has made the survey, Commander O'Malley, of H.M. cutter "Eliza," Captain Laurence Moore, P. M'Donough, who has been employed as pilot by several of H.M. steam frigates, both in this bay and on the coast from Killebegs to Cork, Pilot Joseph Evans, Mr. William Evans; these documents and witnesses will demonstrate by facts clear as day, for they refer to the experience of years of intimate acquaintance with this port and coast, that any ship of any burden, in any weather, with any wind that blows from any point of the compass, may either by night or by day, enter with perfect safety through any of the four sounds formed by the Arran Islands, and that being once inside the islands, the sea becomes perfectly calm, owing to the natural barrier to its fury, formed by the islands, and that she may anchor in any part of the bay without the slightest fear of being disturbed in her position by the most furious hurricane, giving herself only sufficient cable. In corroboration of this statement, instances, and dates, and names will be laid before your tribunal, both of frigates of war and merchant vessels which, at various times and in the most adverse circumstances of wind and weather, made this port and defied the elements; in the report of Captain Washington in 1846, the evidence of Captain White, R.N., who was in command of the coast guard on the Galway station, and who was intimately acquainted with this bay for 18 years, and who was upwards of 40 years in the navy, sets at rest all disputes as to the security and holding ground of this bay and harbour; and the fact of 18 sail of the East India fleet of merchantmen running into this bay in 1794 from the French fleet, and lying at anchor in it in perfect security for a month, awaiting a convoy, gives additional strength to the evidence. But still there are other natural advantages outside the bay, which all the cavil of competition can never overcome, namely, the unmistakeable indications which determine the position of the entrance to the Bay of Galway, even at sea.

From the islands of Arran a bed extends westerly nearly 80 miles, affording soundings the entire of that way, and composed of such peculiar material, that it at once points out to a mariner that he is in a direct road for Galway Bay; this sandy material is taken up by the lead and runs in a direct line with Hags Head and Slyne Head—those great landmarks placed north and south of the entrance to the bay, and seen, at least, 30 miles distant, but almost unnecessary by reason of the soundings already referred to, over the stratum, which by our fishermen is called "the Turbot Bed." The islands of Arran themselves are so bold as to offer, even at many miles distant, clear indications to the sailor, and with the two lighthouses now being erected, one on the north island and another on the south island, leave nothing to chance, nothing more to be desired by the most timid nautical man; there is one point, however, to which I beg to direct particular attention, being of the first importance in nautical science, namely, the almost total freedom of this bay and coast from fogs, the greatest enemy of sailors and the most to be dreaded even by that agent Steam, which has nearly overcome every other disadvantage of the furious ocean. "For 18 years," says Captain White, R.N., "that I am intimately acquainted with the Bay of Galway, I never witnessed a fog that lasted for an hour, or that would at all impede the navigation." *See* report of Captain Washington.

I feel, my Lords and Gentlemen, that I have offered you sufficient evidence of the fitness of this port for safety of egress and ingress to any vessel; but is there accommodation for shipping and passengers?

Docks have been constructed here within the last 20 years, at a cost of 40,000*l.*, which have 17 feet of water over the sill of their gates, and which gates are 54 feet wide, they are five acres in extent, and afford quayage to the amount of 3,110 feet. There are other docks in connexion with the works now in progress and near completion, for uniting the great lakes Corrib, Mask, and Carra with the sea at Galway, which offer quayage of 2,000 feet; the projected pier at Mutton Island, and the causeway to unite it with the Claddagh Pier, would afford 2,500 yards of quayage, and would admit of the largest vessel in the English navy to ride in full sail up to the quay. There is at this moment sufficient storage in Galway for the whole trade of the West Indies, and lying along its dock. The town of Galway could afford good accommodation, at present, for any number of passengers, and if the packet station were established would, of course, much improve.

There is one great and important consideration connected with a transatlantic packet station which cannot be left out of view, namely, the facility and despatch of transmitting both passengers and information.

My Lords, I defy any other port in the British Isles to afford such facility as Galway; the points more immediately to be considered are decidedly on the west, America and the British colonies therein, and on the east, the capital of the British Empire, London. Suppose the "European and North American Railway" completed either to Halifax or Cape Canso, the Midland Great Western Railway completed from Galway to Dublin, the electric telegraph laid down from New York to Cape Canso or Halifax, the same laid down from Galway to Dublin and across the Irish Channel to Holyhead, then the case of the transmission of information stands thus:

From New York to Halifax or Cape Canso, by electric telegraph, 850 miles, say one hour; from thence, by a first-class steamer to Galway, five days; from Galway to London, half an hour, making for news five days and one and a-half hours! In the same suppo-

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sition the case of passengers stands thus:—from New York through Boston, St. John's to Halifax or Cape Canso, forty hours; from thence to Galway, five days; from Galway to Dublin, four hours; from Dublin to Holyhead, three hours and a-half; from thence to London, seven hours, *i.e.*, from New York to London, seven days seven hours! not losing in the transit more than one night's sleep! and that between New York and Cape Canso.

But taking the case as it stands at this moment, for passengers from New York to Halifax, two days, from thence to Galway five days, from Galway to London, fifteen hours; making seven days and fifteen hours from New York to London. For news and information, the electric telegraph being laid down from Galway to Dublin, as is resolved, then from New York its transmission is thus effected: from New York, *via* Halifax to Galway, seven days; from Galway to Dublin, seven minutes; from Dublin to Holyhead, three hours and a-half; from Holyhead by electric telegraph to London, fifteen minutes; seven days three and a-half hours twenty-two minutes from New York to London! But no attentive observer of the present state of the mercantile mind, either in America or England, will doubt for a moment but that this actual state of the mode of transmitting news and information, however superior in its capabilities, will before another year yield to the first case I laid down by the completion of the great design now in progress: no man of any knowledge of business, acquainted with the mercantile mind of the two worlds, but sees the necessity of laying down the electric telegraph across the Irish Channel at any cost, and no man can read the proceedings of the Convention of Portland, but will candidly acknowledge that before another year elapses the American energy, stimulated by American interest, will have established a line of American packets between either Halifax or Cape Canso and Galway, with the view of effecting the vast design propounded in that Convention. Nor will English and Irish capitalists look indifferently on the profitable speculation; the Midland Great Western Company with their million and a quarter of investment in that great work, the Holyhead Packet Company, the Chester and Holyhead and the London and North Western Railway Companies, not to pass over the entire North of Ireland, with its enterprising capital Belfast, will not hesitate a moment to recognise in this glorious design the most valuable opportunity of enlarging their commercial enterprise, and securing a share of its benefits. That individual interests, and selfish motives will raise their craven front, and attempt by misrepresentation, to throw a cloud of doubt over this glorious sun of commercial and social prosperity which is already showing itself over the horizon, I am fully prepared to witness.

Cork has already been "Chattering." Galway is indeed, says Colonel Chatterton, and echoes Mr. Fagan, a magnificent bay, if you could get into it! Did either gentlemen ever attempt it? If so, they must have carried with them one of those permanent fogs which hover around their own coast to the destruction of many a ship and cargo, and alas! many a valued life; but it is not my design to make comparisons at present. I will reserve that for the clear testimonies of the witnesses I shall offer.

There is one element of greatness and of prosperity so intimately connected with the formation of a packet station, that I reasonably suppose your honourable tribunal will regard it as an essential quality to any port. I allude to the aptitude of the locality, and of the surrounding country, to be applied to the purposes of manufactures, to the raising proper supplies for victualling, to affording intelligent and hardy labourers and sailors. The position of Galway is imminently superior in all these respects to any port in Europe; the lakes Corrib, Mask, and Carra pour their waters through the town of Galway and divide themselves into seven great branches through different quarters of the town, and are used even at this moment, working about 50 mills, engaged in the manufacture of flour, in sawing marble, &c. It is estimated by scientific men, that the present water-power of the river of Galway is equal to 10,000 horse power, which will be much increased by the extensive works now in progress and near completion, not alone upon the river, but along the whole extent of the three lakes as far as Ballinrobe, which is being connected with Lough Mask by a navigable canal, and thereby brought within four hours' water carriage of the city of Galway through the important town of Cong on the border of Lough Corrib, and it is probable that in the course of the next summer, such is the advanced state of these great works, that the whole navigation of the three lakes will be cleared and a steam-boat taking in her load either in Ballinrobe, Cong, or the other towns along the shores of the lakes, will be able to deposit it on the quays of Galway in three or four hours, thus making it the emporium of the agricultural produce of the counties of Mayo, Roscommon, Sligo, and Galway, which, heretofore, was shipped off at great disadvantage either to Liverpool or London.

The vast plains of Mayo and Roscommon are remarkable for feeding cattle, which, instead of being sent to Liverpool market, would, of course, afford an abundant supply for the shipping of this port. Labourers are numerous, intelligent, and hardy, as may easily be learned from the contractors of the railroad, and the great works along our lakes, and the fishing stations of the Claddagh, in the heart of the town, and of Freeport, and the sea coast as far as Spiddal, could at any moment supply as intelligent, hardy, and laborious a class of sailors as could be found in the world. The Claddagh alone contains 3,000 persons, altogether devoted to fishing, and the colony at Freeport or Barna contains about 1,200, having no other occupation but fishing; and the Claddagh and Freeport fleet of fishing boats from 7 to 20 tons burden, together with those around the head of the bay at Oranmore, New Harbour, and New Quay are estimated at about 500 sail: all built and rigged within the bay.

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Miscellaneous Letters, Reports, &c.

Having thus hurriedly laid before you the rough sketch of the evidence of the superiority of this port, and ready to bring before you witnesses of unquestionable character and experience to sustain every iota I advance, I can have no fear but if the Commission make any report, it will be simply and enthusiastically in favour of Galway.

I have, &c.,

Galway Committee Rooms, Merchant's-road, November 13, 1850.

PETER DALY,
Chairman of the Galway Packet Station Committee.

AT a Meeting of the Town and Harbour Commissioners, held on Thursday the 14th instant, the Rev. Peter Daly, as Chairman, read the following letter, containing queries relative to the port of Galway:—

GENTLEMEN, *Board of Trade, November* 12, 1850.

I AM directed by the Transatlantic Packet Station Commissioners, to request that you will favour them with your opinions, and the reasons for them, upon any, or all of the following points:—

1st. What would be the effect of establishing the Mail Transatlantic Station at some port on the west or south coast of Ireland as regards—

a. Gain of time for mails, passengers, goods, and latest intelligence.

b. Expense to the several parties and interests concerned?

2nd. In what degree the contract price with Government for conveyance of mails, would be increased or reduced, and what would be the probable reduction in the rates for passage and freights?

3rd. How far would the facilities and advantages to passengers and transport of goods in general, be increased or reduced by such a measure, or if not considered generally of advantage, what class of each, and to what extent, a proportion of the general traffic would passengers and merchants avail themselves of their new route?

4th. If it should not be considered advisable to establish entirely a packet station in any port in Ireland, how far would it be advantageous to adopt one as a port at which every packet should touch, either outward or inward bound, where it could coal, from whence, when outward bound it would take its final departure with the mails, &c., and on return land them?

5th. If any port in Ireland were to be adopted, either for the packet station, or for a point to touch at for final departure, which is the most eligible?

6th. Are there any grounds for supposing that the adoption of a port in Ireland as the terminus of the voyage of the mail packets would divert passengers and goods to the competing lines of steamers running from New York to Liverpool and to Havre, so as materially to affect the income of the contract mail line, or that it would call into existence any additional competition?

7th. What may be considered a remunerating amount of receipts per voyage out and home for such packets?

I have, &c.,

The Packet Station Committee, Galway.

HOBART.

Meeting of the Harbour and Town Commissioners.

AT a Meeting of these gentlemen the following resolutions were unanimously adopted:—

Proposed by Mr. Palmer, seconded by Mr. Mullins—

Resolved, That Messrs. Joseph and William Evans would be able to afford useful information, and that it be suggested to the Commissioners to summon both those gentlemen and also Captain John Strephens.

Proposed by Mr. Somerville, seconded by Mr. Ireland—

Resolved, That our respected member, A. O'Flaherty, Esq., be requested to continue to attend the Transatlantic Commissioners now sitting in London, with a view of bringing forward the evidence necessary to establish the claims of Galway.

Proposed by Mr. Somerville, seconded by Mr. Harte—

Resolved, That from the interest evinced on all occasions by Mr. Reynolds, M.P. for Dublin, in all matters connected with this county, in which he possesses considerable property, we feel it proper, and that we may request of him to give his efficient aid, in conjunction with Mr. O'Flaherty, M.P. for Galway, in arranging and bringing forward the evidence to establish the claims of Galway.

Proposed by Mr. Ireland, seconded by Mr. Davis—

Resolved, That our respected member, Martin J. Blake, Esq., be requested to attend the Commission and to give his aid in establishing the claims of Galway.

Proposed by Mr. Harte, seconded by Mr. Palmer—

Resolved, that the Rev. P. Daly be requested to attend the Commissioners, and afford his powerful aid in establishing the claims of Galway.

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Proposed by Mr. Mullins, seconded by Mr. Ireland—

Resolved, That we also request Mr. Edmond O'Flaherty to attend and assist in the great object now engaging our attention.

Proposed by Mr. O'Flaherty, seconded by Mr. Somerville—

That our county members be respectfully requested to co-operate in attaining our objects.

Proposed by Mr. Daly, seconded by Mr. Ireland—

That letters be written to the Marquis of Clanricarde and the Earl of Clancarty, expressing our gratitude to them for the way in which they exerted themselves on every occasion to promote the interests of this town, and requesting them to support the present movement.

Proposed by Mr. Davis, seconded by Mr. Killian—

That the directors of the Midland Great Western Railway be earnestly requested to co-operate with the gentlemen regarding the interests of Galway, on this most important occasion.

Galway Harbour Commissioners.

At a Meeting of the Commissioners of the above Board, held on the 19th instant Anthony O'Flaherty, Esq., M.P., in the chair, the following letter was read and approved of, and the following resolutions adopted:—

My Lord,

I beg to acknowledge the receipt of your Lordship's letter to the Committee, forwarding queries, upon points upon which you desire information in coming to a decision upon the important object of your Lordship's Commission. As the Galway Packet Station Committee desire to support all opinions advanced by them by the most substantive reasons and conclusive evidence, they have placed themselves in communication with parties both in this country and England, of the highest commercial knowledge and position, whose opinions, they trust, will give weight to the full and satisfactory reply which they have requested a deputation from the body to present in person to your Lordship.

I have, &c.,

Peter Daly, P.P. & V.G., *Chairman.*

The following are the resolutions above alluded to:—

Resolved, That a deputation, consisting of the Rev. Peter Daly and Mr. Edmond O'Flaherty, be requested to proceed at their earliest convenience to themselves, for the purpose of guarding the interests of our port, before the Packet Station Commissioners, and furnishing answers to the queries and collecting and bringing forward evidence in favour of our claims.

Resolved, That we respectfully solicit the co-operation of the Midland Great Western Railway, and we hope that they will extend to our deputation their cordial assistance and support.

REPORT ON THE SHANNON.

To the Transatlantic Packet Station Commissioners.

The following statement, setting forth the capabilities and advantages presented by the Shannon, for its selection as a western packet station, is submitted by the Committee appointed at a public meeting held in Limerick for that purpose.

It appears to this Committee that the intention of the legislature in instituting this inquiry had for its object, to ascertain the quickest and most direct route for transatlantic communication between Great Britain and America, as well as the selection of the port presenting the greatest capabilities for this purpose; so that the question resolves itself into what port possesses the greatest natural advantages in regard to approach and departure, combined with the greatest facilities for internal communication, irrespective of local considerations, except so far as they may, in a secondary way, become auxiliary to the primary object, or, combined with it, afford imperial considerations of an important character.

And this Committee submit that, for the following reasons, the Shannon presents all the qualifications and requirements necessary for this object, in a greater degree than any other locality or port on the Irish coast. As to nautical considerations, taking the six winter months commencing the 1st October and ending the 1st April, the prevailing winds and particular characteristics incidental to the west and south-west coast of Ireland during that period are to be considered. It is an ascertained fact, and hence an established rule of calculation, that during these months the prevailing winds are from south to west; and it is equally determined by practical observations, that a south-west wind generally brings with it rain, thick or hazy weather, and it is furthermore a received opinion, that the nearer the approach to soundings or shoal water, the more the contingency of misty or hazy weather is increased. These circumstances, taken in conjunction with meeting ocean currents or local cross-setting

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Miscellaneous Letters, Reports, &c.

tides, naturally render the homeward voyage from the westward more dangerous and less certain than the outward bound.

On the voyage homeward from Halifax, it is essential that some particular point in the direct line of course to the west coast of Ireland should be assumed as arrived at, say lat. 51° 30′ north, lon. 12° west; and this point will be distant from—

Cork Harbour	150 miles.
Berehaven	80 miles.
Skelligs Rocks	57 miles.
River Shannon	94 miles.
Galway	152 miles.

As it frequently occurs in this line of approach to the coast, that neither by meridian, nor double altitudes, can the ship's latitude be ascertained with accuracy, the difficulties are augmented thereby; besides which, steering from the point named upon an east-south-east course by compass, the ship must cross the north-west stream which sets out round Ushant across the chops of the channel, and, even at this distance, is sensibly felt, striking upon the starboard bow at an angle of 25 degrees. Under these circumstances, with the wind at south-west, weather thick or threatening, and uncertainty of latitude, every prudent seaman would steer for that point of land which presents a safe approach, a distinguishing outline, and unmistakable well-marked landfall—namely, the Skelligs—when the next question arising would be which is the nearest port.

Berehaven *is* the nearest, but it is on a lee shore; and so likewise are Cork and Galway, offering a most serious objection to the seaman. The Shannon is the next nearest after Berehaven, and, simultaneously with Skelligs, the Blaskets are also made; from these up along the coast by Brandon, a weather shore and smooth water are attained, the land is kept always in view, until the ship is within the Shannon between Kerry Head and Loop Head over seven miles in width; thence to Foynes Harbour is 35 miles of river navigation, well lighted, with no danger nor obstructions; and at Foynes there is a pier, alongside of which is 22 feet at low water, sheltered and smooth as any floating dock. Glancing at Berehaven, this harbour lies on a lee shore; it has a narrow entrance with blind rocks, besides a wild roadstead; and, even if provided with a pier, no vessel could lay alongside, except in very fine weather. Cork, too, is on a lee shore, and, from its great sea distance, would obviously be ineligible to run for. Galway is a still greater sea distance, and offers no secure harbour for a packet, nor safe landing place for passengers; and, indeed, there are times during winter when a ship may be riding in Galway Bay for perhaps two or three days with no possibility of communicating with the shore. Besides, it would be absurd to pass the Shannon, and run down into a deep bay, along a most dangerous iron-bound coast, upon a lee shore, with the certainty of three hours' additional sea steaming, and the uncertainty of making a safe landfall, which, even if made, would have a rough and perhaps open roadstead two miles from a landing place.

The point assumed for these observations bears from Halifax east by north, and the distance is about 2,110 miles. The respective distances to the ports in question, through this point, may therefore be taken as follows:—

Halifax to Cork Harbour	2,260 miles.
Halifax to Berehaven	2,190 miles.
Halifax to Foynes Harbour	2,240 miles.
Halifax to Galway Bay	2,262 miles.

In addition to these must be considered the great advantage of steering for a part of the coast nearest to the port of destination, which presents a succession of bold, safe, and well-defined landmarks, of rock, promontories, mountains, and lights; and this the approach to the Shannon particularly presents—the first object observed being the Skelligs, next the Blaskets, and then the Brandon mountains, which are seen in clear weather at 15 leagues distance.—(*See* Capt. Wolfe's Report to the Admiralty.)

Having thus considered the question with reference to a homeward voyage, we may now briefly state, that still greater facilities exist for outward-bound vessels from the Shannon, as compared with the other ports under consideration. Passengers may step on board the packet awaiting the mail-bags alongside a commodious pier in complete shelter, within a short travelling distance of the city of Limerick, either by land or water, whence a smooth-water river course brings her to the most seaward westerly point of land in the direction of her destination, under shelter from the south-west wind until she had opened the Skelligs Rock, bearing south, and clear of all lee shore and coast dangers.

In regard to internal communication, the Committee submit that the central position of Limerick having railways radiating to Dublin, Waterford, and Cork, presenting direct communications to the north-east and south, and thence to all parts of the empire, confer on it advantages for extended internal intercourse not possessed by any other locality on the west coast of Ireland. The lines from Limerick to Dublin, and Limerick to Waterford, present two direct communications to Great Britain—the one affording the most direct route for the distribution of letters and passengers to London and the south of England, as well as to Paris and the west of Europe; and the other to the north of England, Scotland, and the northern and central districts of Ireland, as well as to northern Europe: thus affording the means of providing any amount of communication that may become necessary for future requirements, and securing the means of obviating the injurious effects of the monopoly that would be established by the adoption of a port having but one line of railway to the interior. Moreover it affords the means of establishing a double line of telegraphic communication in different routes across the Irish Channel, which would give an amount of security and certainty in this mode of communication not attainable by one route, as in case of any interruption by accident

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or design in the line of communication in one direction, which would require a considerable time for its repair, during which the communication would be altogether cut off; the inconvenience could at once be remedied by bringing the other into operation.

In comparing distances, it will be found that Limerick and Galway are about equidistant from Dublin, which leave these two points on an equality in regard to the route to Holyhead; but Limerick has the advantage of another communication by Waterford, and thence, *viâ* Fishguard and Gloucester, to London, with a third line of railway to Cork, and the steam navigation of the Shannon for over 200 miles through the heart of Ireland, whilst Galway is limited to the one railway to Dublin. Likewise, in the case of Cork, that city is 37 miles further from Dublin than Limerick, added to which there is a sailing distance from Cork of 30 miles before a vessel would reach the same meridian of longitude as Limerick, besides all the disadvantages of coasting on a lee shore, as before stated, before clearing the south-west coast.

In selecting the most suitable port in the Shannon, the Commissioners have their choice of Limerick, Beagh Castle, Foynes, or Tarbert; any of which may be made available, and all possessing well-sheltered anchorages, within the tideway of the river, and accessible at all times of tide, except Limerick, which may be reached by a small steamer at low water; but at high water a channel of 25 feet in depth is afforded to the city, where a floating dock is now in course of construction, which will admit vessels drawing 17 feet of water in neap tides, and 23 feet in springs.

The local advantages and resources of Limerick, the Committee submit, are of a very important character in connexion with this object. It is situated in a district of proverbial fertility, and is connected by inland steam navigation with all parts of the interior of Ireland; its estuary is surrounded by a very extensive district of anthracite coal, which, although not much in use at present for industrial purposes, owing to its qualities not being well understood, yet modern science points out that it presents properties of a very valuable nature, which render its early application to steam and industrial purposes highly probable. Besides this, however, at the source of the Shannon there is a district of bituminous coal, which at once affords a supply of the chief element of steam power, and, according to Dr. Griffith, the present chairman of the Board of Works in Ireland, "it is excellent fuel for domestic purposes, and, if used for smelting iron, it is amongst the best in the empire." By the same authority, the principal bed "is 3 feet in thickness, and is sufficient to supply the supposed demand for 500 years." This appears to the Committee a fact of considerable importance, when it is considered that, in case of any other locality being selected, the supply of fuel must come from either England, Wales, or Scotland, as no other locality on the Irish coast possesses coal of this quality; and it is considered that, with a brisk demand, the Leitrim coal might be delivered in Limerick for 10*s.* or 11*s.* per ton. Throughout the course of the Shannon it abounds with mineral resources in copper, lead, silver, alum, sulphur, &c.; and near Limerick there is a water-power (according to Sir Robert Kane), in constant action, of 33,950 horses' power. All these presenting the elements of manufacturing industry on a large scale, which the establishment of a packet station would tend materially to develope.

The Committee beg also to submit, that the naval and military advantages, as presented by Limerick, are of a superior character, affording the greatest facilities for the transmission of troops to all parts of the interior, and for their embarkation for colonial and war services, whilst the rich district around secures supplies to any amount for both services.

In regard to commercial considerations no locality possesses natural resources of greater extent, for home or foreign trade, in the facilities presented for extended intercourse both by railway and water communication, and its position on the most westerly shores of Europe. Limerick, also, has most extensive warehousing accommodation along its commodious quays, with other facilities for assorted cargoes, and a fine floating dock now in progress to completion.

It is accordingly submitted by this Committee, that the Shannon possesses all the advantages of an open unobstructed approach at the foot of the first landfall on the Irish coast seen by the mariner from the westward; a safe, open, well-defined, seaward entrance, which may be boldly run for in all weathers both by day and night; a capacious well-sheltered estuary, having several convenient anchorages, and well lighted throughout its length; an improving commercial city for its port, its central position affording unequalled facilities by railways and water communication for extended intercourse and transmission of intelligence; superior facilities for the concentration and distribution of troops in large bodies for home duty, or for embarkation on war or colonial services, for which a proverbially fertile district secures the means of supplies; an extensive development of mineral productions and mechanical power for manufacturing industry on the largest scale; and, lastly, commercial facilities of an important character.

(By order of the Committee)

WILLIAM RANDALL,
WILLIAM CARROL, } *Secretaries.*

Limerick, November 14, 1850.

Letter from Capt. Hewson, R.N., to the Hon. S Spring Rice, enclosed in a Letter from that Gentleman, dated the 9th November, 1850, *respecting the Harbour at Foynes.*

DEAR SIR,

THE communication to America just now occupying the minds of the public, I would beg leave, from a long residence on the banks of the Shannon, to offer a few remarks as to which of our western ports, irrespective of local influence, may be best adapted to open a com-

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Miscellaneous Letters, Reports, &c.

munication with America, ensuring a safe harbour to steamers, as well as admitting the mails and passengers to be conveyed to the destined port in the shortest possible space of time. This is a subject embracing benefits to Ireland on a large scale.

Lord Monteagle has very liberally advanced a large sum of money to the Board of Works to build a pier at Foynes, on the river Shannon; it is now drawing near its completion, affording safety to vessels of large draught of water. At low water in ordinary spring tides 10 feet of water exists inside the pier, and 18 feet outside, where vessels may lie in the greatest possible safety. The pier and roadstead of Foynes afford a safety to vessels in severe weather not to be found in any cove on the western coast of Ireland, save at Berehaven. Foynes Island affords to its anchorage the same shelter which Bere Island gives to its haven. In the storm which occurred in January, 1839, from Kilrush to Limerick, the shores were but one melancholy scene of wrecks; the vessels in Limerick were torn from the quays and thrown against the new bridge, some were sunk, and others totally dismasted. At Tarbert several deep-laden merchantmen were lying at anchor wind-bound; they were all driven from their anchors, and next morning were seen stranded on the shores on either side: one sloop alone, deeply laden, whose master was a perfect stranger to the Shannon, being driven up the river, not knowing where to turn, fortunately observed the opening at Foynes formed by the island; he ran his sloop in, and rode out the gale as in a mill-pond.

Foynes forms the natural safety harbour to the river Shannon. Vessels of any draught of water may run thus far up that noble river, being about 37 miles from its mouth, without a pilot; but from thence to Limerick the difficulties of the Shannon navigation commences, requiring experienced pilots and much local knowledge.

This port would give to the Atlantic steamers an advantage not to be met with in any other position, that of being able to start at a moment's warning under the most adverse case of wind and weather, and giving the passengers ample time to get their sea-legs aboard (not the least consideration) before having to contend with the sea of the Atlantic Ocean.

The next consideration is the time required to attain the greatest western longitude in the shortest given time from Dublin Post-office; dispatch trains leaving thence may reach Limerick in three hours. A dispatch steamer drawing little water can start from the New Quay at Limerick at all times of tide, conveying mails and passengers to the steamer at Foynes, say one hour and a half; the Atlantic steamers being prepared will steam to Loop Head, under adverse circumstances, in three hours and a half: her voyage across the Atlantic we leave to higher powers; but I will maintain that with perfect safety to all parties, no such longitude can be attained in such a given time. Look at the curvitures on the line of rails leading to Mullingar; being a preventive, no such dispatch trains could reach Galway; but when arrived at that port vessels are dependent on a tidal harbour, where no safety mole exists for Atlantic steamers, the lock of the new basin being too small to admit a vessel of that size.

The return voyage to a seaman is an object of serious consideration, independent of the shores of Malbay being proverbially hazardous. (Many very experienced masters have been stranded on that coast.) A vessel in a western gale must approach the bay with much caution; a heavy sea sets in, and the roadstead is very open, subjecting passengers and mails to much delay and inconvenience before communicating with the shore and landing luggage.

The steamers making for the Shannon run in the parallel of latitude of Loop Head, and when the light is seen all anxiety ceases; she enters the Shannon boldly, and has then lights at each ten miles to direct her to her mill-pond.

Foynes possesses another peculiar advantage, that of the best of roads leading to Cork, Limerick, and Tralee, to which places passengers may be conveyed in omnibusses to their destinations, independent of mail-cars.

Sheerness Yard, November 20, 1850.

I BEG to offer the following suggestions relative to the lights, &c., on the coast of Ireland:—

1. I would strongly recommend one light on the Foze Rock; this would be of the greatest service in rounding the Blasket Islands. I think a revolving one, bright and green alternately every minute, to distinguish it from Loop Head light, the Skelligs, Slyne Head, and Arran lights.

2. Valentia, from bright to green.

3. On the Bull Rock, one red fixed light would be of great service to Bantry Bay. The present light off the east end of Bere Island ought likewise to be green, revolving every half-minute.

4. Crookhaven light, from bright to green, and revolving every two minutes; but taking the harbour at night, very great care must be observed to avoid the Alderman Rock. The lighthouse is on the starboard hand, whereas it ought to have been on the port (on the Alderman Rock), or the nearest point to it. The result has been, that when the harbour ought to be of use to vessels in distress, or otherwise, and the master a stranger to the port, in bearing up for this harbour he is wrecked; because when he opens the light, he steers for it, and being ignorant of the entrance, runs on the Alderman Rock.

5. Fastnet light, revolving every two minutes, the same as Cape Clear light; but if the light is retained on Cape Clear, one flash-light every five or ten seconds, I think, would answer.

6. The light on the Old Head of Kinsale, and also the harbour light, are very good,

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and the lights well attended to; but I think a buoy ought to be placed near the Bulman Rock, and one on the bar in the most water.

7. Queenstown (Cove of Cork), Roches light seawards, red, is a bad one when bound in for Cove Harbour, in a clear night. More than once I have made out the buildings before I saw the light. I would strongly recommend that two lights be placed, the one now built to remain, but to have another lighthouse built at the back, and so placed as to show two bright lights at equal heights, when outside of the Dent Rock, which is a very dangerous rock, laying one mile from the shore, off Roberts' Cove.

8. Ballycotton Island, I think, ought to have a light; it is the most projecting point for vessels navigating this part of the coast. In my opinion the light placed on Cable Island will be the means of many wrecks, as it lays two miles within the coast line; and in thick weather, and not judging well the distance from the shore, vessels will go on Ballycotton, or on shore to the northward of Poor Head.

9. If a light on Cable Island, I should recommend a green. It would be sufficient for Youghall.

JONATHAN AYLEN,
Master Attendant.

THE WEST OF IRELAND PACKET STATION.

To the Editor of the Advocate.

SIR,

IN keeping this question before your readers, it ought never to be lost sight of that the establishment of such a station must be combined with a total revolution in the species of packets employed.

It would be irrational to have a west of Ireland station for such hulks as the Cunard or Collins fleets. There is an analogy between a horse and a steam-vessel, which may familiarly illustrate the state of the case. With a horse, and likewise with a steam-vessel, high speed and long distance are incompatible. The greater the speed in each case, the greater the exertion; and a great exertion cannot be sustained for a long journey, or for a long voyage. Hence, when fast coaches, such as the Wonder and the Telegraph, which used to travel from London to Shrewsbury, and from London to Manchester, respectively, in one day, were started, for the accommodation of those to whom time is more valuable than money, it was necessary, in order to accomplish the task, that arrangements should be made for changing horses at shorter distances than had been customary with slower coaches; but the mere establishment of stabling at short stages along the road did not of itself create a fast coach. Short stages were essential towards enabling high-bred horses, with suitable light coaches, to perform speedy work; but the clumsy stage waggons of our ancestors, which were in no respect adapted for speed, could not have gone from London to Manchester in one day, even with all the aid of stabling at short distances.

In like manner, the present sea-waggons which jog between Liverpool and New York could not, even with the advantage of a start from the west of Ireland, perform speedy voyages across the Atlantic.

The Chancellor of the Exchequer lately quashed a Parliamentary discussion about the views of Government as to an Irish Packet Station, by stating that a clause was to provide, in the Royal Mail contract, for the transfer of the packets to such a station on certain terms, if circumstances should hereafter require it; but the Chancellor of the Exchequer did not understand what he was talking about if he supposed that a mere touch of the rudder, at the command of a Treasury pen, can transform hulkish sea-waggons, such as at present go between Liverpool and New York, and between Southampton and the West Indies—distances of three or four thousand miles—with goods, and with capacity for two or three weeks' consumption of coal, into packets adapted for mail and passenger service on the Atlantic ferry between the west of Ireland and Halifax.

A packet adapted for the swift conveyance of mails, passengers, and electric intelligence between the Old World and the New at this station, must be a totally different sort of vessel from any that exists on the ocean scale. If the Commissioners appointed by Government to report on an Irish Packet Station approach the consideration of the subject with reference to any existing class of ships or contracts, they will be ingenious if they can discover virtue in such a station.

Approaches to the abutments of a bridge, and the bridge itself, must have a mutual adaptation, and the necessity of the Commissioners making the present state and prospects of ocean steam navigation a most prominent branch of their inquiries, must be importunately urged.

It must be observed, in passing, that an inconsistency in some advocates of a West of Ireland Packet Station, who talk loosely of "New York" as the station on the other side of the Atlantic, ought to be rectified.

Whatever sound argument there may be in favour of the west of Ireland as the European abutment of the transatlantic ferry, must be at least equally conclusive in favour of the most easterly available port in the Western World as the American abutment. The eligible port is, unquestionably, Halifax; for although Canso and Whitehaven, in Nova Scotia, which have been alluded to in some recent discussions, are some miles nearer Europe, their well-known liability to prolonged obstruction by ice condemns them; and there are aggravated insuperable obstacles of the same kind to the still nearer coast of Newfoundland being advantageously available. It is, therefore, for Halifax, in the Western hemisphere, as for Ireland in the

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Miscellaneous Letters, Reports, &c.

Eastern hemisphere, that the struggle must be made, and such a struggle must eventually succeed. Nature decrees it.

Nothing but carelessness and indifference on the part of the British Government to national interests, together with their prolonged unacquaintance with the resources of steam navigation, can delay it.

The importance of the projected Halifax and Quebec Railway will become strikingly visible, the moment that the ferry between the west of Ireland and Halifax shall have been decided upon as the great highway for mails and passengers between the two worlds.

In order to show the capabilities of the proposed ferry, a vessel specially adapted for the service ought to be immediately constructed, on the most approved plans. The Cunard boats must not, however, be taken as a pattern; for, notwithstanding their bombastic boasting, echoed by the press once a week, they are a national disgrace, and beyond the age in every respect; their managers complacently scorning, under the shade of monopoly, all the well-established improvements of recent years, or, perhaps, judging it not politic to expose, by the introduction of improvements, the inferiority of their antiquated fleet. It is an undeniable fact that, whilst enormous advances have been made in other quarters in the art of steam navigation, the Cunard fleet do not contain any one item of improvement on the old pioneer the Great Western, constructed thirteen years ago, with the exception that their recently-built vessels are larger.

A packet for the west of Ireland station ought to be of not less than 800-horse power, adapted for the conveyance of intelligence and passengers exclusively; no larger than is requisite for obtaining a good form, and for carrying well the engines, and the fuel to be consumed in spanning the 2200-mile ferry. Goods must go in separate vessels—viz., in auxiliary screw merchant ships. The small end of the wedge to bring forward the pretensions of the Irish station must be a highflyer. The voyage would occupy only five or six days. It is one of those things which are impossible, simply because it is thought to be so—but for no other reason; the only difficulty is to create a belief in its possibility. If inquiry could only be aroused, the result would follow. Perhaps inquiry may be aroused by specifying a few of the leading elements of improvement within reach:—

	Tons.
By discarding engines of the antiquated construction of those now employed in all the transatlantic steamers, and which are long since discarded in every well-appointed service, that of Government included, the weight of 800-horse power engines can be dimioished	360
This involves no untried novelty: neither does lightness involve slightness: on the contrary, the parts may be stronger, the lightness being obtained by simplicity.—(See "Mechanics' Magazine" of 21st September.) H.M.S. "Retribution," "Sphynx," "Furious," and a great many others, afford examples of improved engines.	
By building the vessel of iron, or else—if a wooden vessel be preferred—of diagonal plank for the skin, and adequate timbers, &c., on a plan somewhat similar to what is extensively used in Her Majesty's navy, as exhibited in the "Niger," "Basilisk," "Porcupine," Her Majesty's Yacht, and various packets, a further saving of weight may be effected, with equal strength, of at least	300
By carrying no cargo, further weight is dispensed with, of, say	400
By starting from the west of Ireland with a fast vessel, instead of from Liverpool with a slow one, several days' supply of coal may be dispensed with, to the extent of, say, at least	400
Diminution of weight to be carried by proposed despatch vessels, as compared with present transatlantic steamers, at least	1,460

Now, one of the Cunard steamers of 800-horse power, as they start from Liverpool for New York, displaces, or weighs, more than 3,000 tons. Abstract 1,460 tons of lumber from this, the power of 800 horse being still retained, and see what an improved form, improved seaworthiness, and tremendous increase of speed, with the diminished resistance, is to be obtained. The foregoing is almost incredible, but fact is sometimes stranger than fiction; and this is fact. I purposely abstain from encumbering these hints with details, and allusions to minor improvements.

The cost of such a vessel, capable of making 12 voyages, or 24 passages per annum, between Ireland and Halifax, would be 70,000*l.* to 80,000*l.*

No existing vessel could, however, even if relieved of cargo and coals, exhibit the merits of the Atlantic ferry. None of them are adapted, in any respect, for high speed. Their forms, and proportion of paddles, and many things, are unsuitable. To expect them, under even favourable circumstances, to have speed, would be equivalent to expect a dray horse, even if indulged with feather weight, to keep pace with a race horse—which, of course, he could not do.

It may occur to some people that such a sharp vessel as is here hinted at may be objectionable at sea, but such a notion is erroneous; a well-constructed sharp vessel being, in all respects, better at sea than a full one, provided that the weights are kept out of the extremities and properly placed, and provided that the total weight to be carried is not disproportioned to the buoyancy of the vessel.

The importance of a short ferry, in order to obtain the combination of sharpness of form, with great steam power and adequate buoyancy, need not be further insisted upon.

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I shall be glad if any hint to be derived from a perusal of this paper prove serviceable to the advocates of an Irish Packet Station, and its corollaries, the Halifax and Quebec and Halifax and Portland Railways.

Your obedient Servant,

"1850," NOT "1838."

At a Meeting of the Council of the Borough of Belfast, held on the 2nd day of December, 1850, JAMES STIRLING, Esq., Mayor, in the Chair,

THE Mayor reported that a project is on foot for shortening the time of transit of mail and passengers between Great Britain and Ireland and America, by establishing a western packet station at Galway, whence the passage will be made by steamers of greatly-increased speed to Cape Canso, the most eastern point of Nova Scotia, and thence by railway to New York, a distance of 860 miles, 410 miles of which are at present finished and in operation, thus reducing the time of transit from London to New York to 7½ or 8 days, instead of 11 or 12 days as at present.

The subject having been referred to the General Purposes Committee, and considered,

It was unanimously Resolved,

"That it is the opinion of this Council that if the increased rapidity of communication proposed to be effected by the selection of a packet station on the western coast of Ireland shall be successfully carried out, it will be highly beneficial to the trade and commerce of the north of Ireland."

JAMES STIRLING, *Mayor.* (Seal.)
JOHN BATES, *Town Clerk.*

WE, the undersigned Merchants of Belfast, having had explained to us, by Mr. Daly, the project of shortening the time of communication between Great Britain and Ireland and America, by means of adopting Galway as a western port of departure for mails and passengers, with steam vessels of extraordinary speed sailing thence to Cape Canso, and railway communication from thence to New York, a distance of 860 miles, 410 miles of which are now in operation, thus carrying the mails and parcels from London to New York in 7½ or 8 days, instead of 12 or 13 as at present, are of opinion that the same, if successfully carried out, would not only be highly beneficial to Belfast and the north of Ireland, but would confer great benefit on the trade and commerce of the whole United Kingdom.

[Here follow 26 signatures.]

WE, the undersigned, John George, Master, and Thomas George, Mate, of the schooner "Joshua Carroll," from London, and bound to Galway with a general cargo, when running for Galway Bay in the gale of the 19th instant, with loss of sails and spars, and when nearing Blackhead, the wind drew ahead, and in the height of the gale let go both anchors, when the vessel rode out with perfect safety. As soon as it moderated we hove up our anchors and ran up to Galway Roads in safety, without requiring any assistance. We can with confidence state that there is no such bay or harbour in Ireland where a stranger can run his vessel to with safety as Galway, and that at any hour of the day or night.

JOHN GEORGE, *Master.*
THOMAS GEORGE, *Mate.*

Galway, November 25, 1850.

Declared before me,

A. RUSH, *J.P., County Town of Galway.*

MY LORD, *Queen's Hotel, Cork-street, December* 14, 1850.

I HAVE the honour of forwarding to your Lordship, for the use of the Commissioners, the enclosed drafts of the evidence which each person named has supplied to the Packet Station Committee of Galway, at a time when it was supposed that oral evidence might be taken before the Commissioners in each locality; and the Packet Station Committee had the several persons named examined before it, with the view of ascertaining in a condensed form the information each might be able to supply. As, however, it appears probable that no oral evidence will be required, I think it fit to lay these papers before the Commissioners, as also the letter of Mr. Kennedy, of Belfast, received after my interview with the Commissioners yesterday, and I therefore trespass on your Lordship's experienced courtesy to request you will have the kindness to draw the attention of the Commissioners to the papers.

I have, &c.,

The Lord Hobart, &c., &c.

PETER DALY.

DEAR SIR, *Belfast, December* 11, 1850.

I HOPE to have the pleasure of hearing from you in a few days of your successful application to Her Majesty's ministers. I only wish you had your project fairly started into execution,—a project, if carried out, would produce, I verily believe, important and beneficial changes in Ireland.

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Miscellaneous Letters, Reports, &c.

It is highly desirable to promote and extend the trade of Ireland, which is of *far* more importance than our statesmen are aware of, who have no means of judging, except from *official returns*. Our first and most extensive article is linen. A new system of steeping flax had been patented and adopted here. The patent was taken out by an American gentleman named Schench, whose partners still carry on the business in works belonging to my father-in-law, which are beside my dwelling-house. Last year it was found that the seed saved by this new system produced better than the *imported* seed, and this being likely to continue, the whole value of this trade consists of rent of land, labour, and profit in the various processes.

In England the raw materials, silk, cotton, &c., are imported, and of course a large portion goes to the benefit of the foreigner. *Here the entire is produced.*

I also believe that if we were placed upon an *equal* footing, and if we had foreigners coming through Ireland, our trade would be as important to Great Britain as the cotton trade. The French and Germans used to send out large quantities of coloured, checked, and fancy linen for ladies' dresses; now, however, some English houses, having branches of their establishments here, are producing these goods and cutting the others out, selling some of them largely, in fact, to the Continent. In England they cannot bleach linens, owing to the want of water power and the expense of steam-power in beetling and finishing. Here we have two extensive printworks in operation, in one of which my father-in-law, Mr. Howie, has produced some singularly beautiful styles, which have been ordered for the wear of our excellent Queen, and selected by herself when she visited Belfast.

Formerly we used to import almost all our linen cambric handkerchiefs from France, now, owing to some improvements introduced by our manager, Mr. Adam Howie, we produce weekly 30,000 and 40,000 dozens. All this has been accomplished by the starting of two or three houses who have travellers abroad, who make themselves acquainted with any improvement, and who of course direct us. If we had the buyers coming over direct, *we could still further improve*, for we could discuss everything with them in a way that a traveller, who is seldom a practical man, is incompetent to do.

We still import hand-spun linen yarn from Germany. Our old system of steeping flax made it unfit to spin fine yarn, but under the new system all is reduced to a system and science, and by extra steeping the article can be refined and made fit for the hand. It takes time to bring round everything, but I think the spinning-wheel will yet be occupied at the cottager's fireside.

Then our cotton trade is of some importance. We (my firm) manufacture about 4600 lbs. weekly. In each lb. there is about 12 oz. of cotton, worth about 9*d.*; the goods, when finished, are worth 9*s.* and 10*s.* per lb.; the difference is all labour and profit. The Belfast manufacturers make collectively about 8000 lbs. weekly, and Glasgow firms, as near as I can guess, about 10,000 lbs. more. Then, in the sewed muslins the whole expense, I may say, is labour, for the cloth of a 5*s.* article is worth about 1*d.*

On the other hand, in low-priced articles the profit to the country is exceedingly little. You will buy manufactured calico at 8*d.* per lb., whilst the cotton wool in it costs 6*d.* and 7*d.* You will easily see, therefore, how important it is for the Government to promote the trade of Ireland. It is a valuable trade to the country, and if our people were employed, finer articles would be consumed, and England herself would be infinitely more benefited, for our manufactures, like our interests, in nowise clash.

I have, &c.,

Rev. Mr. Daly.

JA. KENNEDY.

County of the Town of Galway to wit. } LAURENCE MOORE, of the town of Galway, ship-master, or sea-captain, came before me, JOHN IRELAND, one of Her Majesty's Justices of the Peace in and for the said county of the town of Galway; and the said Laurence Moore solemnly declared as follows, to wit: That he has been engaged in the merchant service on the foreign trade, crossing the Atlantic ocean, since he was sixteen years of age, from Galway, on the western coast of Ireland, and from several ports in England.

That in crossing the Atlantic, and meeting with difficulties or stress of weather, declarant would prefer running for Galway Bay than any bay or harbour on the south or south-west coast of Ireland, by reason of its clear indications of headlands and soundings, and the facility of entering the bay in any weather from whatever point the wind might blow; and declarant avers that the same facility of entering the harbour or bay would refer to steam-vessels of any magnitude, the soundings being so far west as 11° west.

Declarant further states that he entered Cork harbour in the "Jane," of Galway, from Rio Grande, in South America; and he (declarant) states that the entrance to the harbour is more difficult, and attended with more risk both to merchant and steam-vessels, than the entrance into the Bay of Galway.

That the safety of anchorage and mooring inside the Bay of Galway far exceeds that of any other bay or harbour in the world, the holding-ground only requiring sufficient chain and proper management for the effectual and permanent security of any ship or vessel of any tonnage; and declarant makes this solemn declaration, conscientiously believing the same to be true, and by virtue of the provisions of an Act made and passed in the sixth year of the reign of His late Majesty King William IV., entitled "An Act for the more effectual abolition of Oaths and Affidavits taken and made in various departments of the State, and to substitute Declarations in lieu, and for the entire suppresion of voluntary and extra-judicial Oaths and Affidavits, and to make other provisions for the abolition of unnecessary Oaths."

Made and subscribed before me, at Galway, this 8th day of October, 1850.

LAURENCE MOORE, *Ship-master.*

JOHN IRELAND, *J.P.*

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Circular.

At a public meeting of the inhabitants of the city and county of Saint John, Province of New Brunswick, held on the 15th August, 1850, the Hon. John Robertson in the chair, the following resolutions, relating to a projected line of railway from Bangor, in the State of Maine, to the eastern coast of Nova Scotia, to connect with Atlantic steamers running to and from the western coast of Ireland, were unanimously adopted:—

1. *Resolved*, That the measures adopted by the late Railway Convention at Portland, meet the hearty approval and full sanction of this meeting; and further *Resolved*, That the sincere thanks of this community are justly due to the Committee of arrangements at Portland, and the citizens of that place generally, for the admirable manner in which the Convention was managed, and for their attention and kindness to the delegates from this province; and that this meeting responds with unmingled pleasure to the mutual expressions of esteem and goodwill which so universally characterized the proceedings of the Convention.

2. *Resolved*, That the projected undertaking, which has received the appellation of "The European and North American Railway," is recognised and adopted by this meeting as one which affects the interest of every British subject, whether resident in the United Kingdom or the North American colonies; and that on national grounds, as well as for social, political, and commercial reasons, this railway ought to be made—will be profitable when made, and therefore must be made.

3. *Resolved*, That this meeting, viewing the vast importance of the proposed undertaking, and the powerful influence which it will undoubtedly exercise upon the future destinies of these colonies, now sincerely and firmly resolves to aid the enterprise with heart, hand, and purse; and fully relies on every man in the province to exert himself to the utmost of his power, to promote the progress of a work which involves in its accomplishment the prosperity and the dearest interests of New Brunswick.

4. *Resolved*, That the members of the Executive Committee for this province, appointed at the Portland Convention, be, and are hereby requested to open books for the subscription of stock in this city and county; and that on the expiration of 30 days from this date, the persons so subscribing be called together for the purpose of nominating a local Provisional Committee, to act in conjunction with the before-mentioned Executive Committee.

5. *Resolved*, That this meeting views the "European and North American Railway" as an enterprise destined to draw closer the bonds of union between these provinces and the people of Ireland, and to elevate the condition and prospects of that noble portion of the British empire; and it hails with lively satisfaction the spirited effort lately made from Galway, to test the practicability of a more rapid communication across the Atlantic.

6. *Resolved*, That the Executive Committee, in taking subscriptions for stock in the European and North American Railway, do so upon the understanding, that the same is to be considered as one undertaking from the eastern coast of Nova Scotia to Bangor, to be incorporated by concurrent charters in Nova Scotia, New Brunswick, and Maine; the shares to be *one hundred dollars* each, payable by annual instalments, extending over a period of *five years** after the Company is organized; but a deposit of one per cent.—one dollar per share—to be required from each subscriber, and placed at the disposal of the Executive Committee, to meet preliminary expenses.

7. *Resolved*, That copies of these resolutions be transmitted to Her Most Gracious Majesty the Queen, to the mayors of London, Glasgow, Liverpool, Dublin, Cork, Galway, Halifax, Quebec, Montreal, Bangor, Portland, Roxbury, Boston and New York; and to the chief magistrates of such other cities, in Europe and America, as may be considered interested in the undertaking.

In conformity with the seventh resolution, we beg to present you with a copy,

And have the honour to be, your obedient Servants,

W. R. M. Burtis, } *Secretaries.*
T. Warren Anglin, }

St. John, N. B., August 15, 1850.

Evidence of Patrick McDonogh.

Is acquainted with the Bay of Galway for about 47 years, during that time he never saw a fog that would impede ships, but one of about a couple of hours' duration, during which there was a puff of wind.

Crossed the Atlantic ocean about 12 times in sailing vessels; knows the coast of Ireland well, and many ports in England; would prefer running for Galway Bay in a gale of wind, to any other on the west coast, if two lights were on the Islands of Arran. Piloted war-steamers into Valentia harbour, which is so narrow and dangerous, that at certain winds it would not be safe to enter it: would not run into it at night in charge of a ship; but would have no hesitation or fear to run for the Islands of Arran in Galway Bay, and pass through any of the sounds, if the two lights were erected, one on the Brannick's and the other on Gregory's Sound.

There is not sufficient room to wear or stay a ship entering Valentia harbour. Piloted Her Majesty's ship "Andromache" into Galway Bay, where she lay at anchor, for two years, those of 1846 and 1847, during the most severe weather in great gales of wind, without the

* The Executive Committee appointed by the Convention at Portland do not concur in the 6th Resolution of the meeting at St. John, on the 15th August, which extends the time of paying up the stock to five years; and have determined to take subscriptions payable within three years, with a provision that not more than one-third of the amount shall be called for in any one year.

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Miscellaneous Letters, Reports, &c.

slightest injury or accident, the holding-ground being such as to hold any ship in perfect safety in any gale of wind, if only proper attention is paid to her, in giving chain and making the ship tight during a gale.

Piloted Her Majesty's frigate "Andromache" into Killabegs; got ashore at Valentia, and she broke her rudder and killed the boatswain; to repair which, Her Majesty's steamer "Lucifer" had to proceed to Cork to replace, and return to Valentia with the necessaries for repairing the damage.

Piloted her to Killabegs harbour, and also piloted other of Her Majesty's ships. States that where a royal mail steamer from Halifax would make the Skelligs, which is 100 miles from Cork, another royal mail steamer, sailing at the same time as the one for Liverpool, to Galway, the latter would make the Islands of Arran, and be in Galway roads within two hours, while it would take nearly 26 hours, mostly 30 hours, to reach Liverpool from the Skelligs.

This clearly proves the advantages in favour of Galway as to time, independent of the dangers avoided by running along the coast. In making the land north of Galway Bay, the Twelve-pens are the best landmarks on the coast of Ireland for a mariner.

Under Blackhead any fleet can ride at anchor.

Mr. Joseph Evans examined.

States that he is one of the Master Pilots of Galway; for some years crossed the Atlantic, about nine times from Galway and Waterford in sailing-vessels, and from Liverpool in the royal mail steam-packets. Recollects sailing from Waterford in the "Mariner" for Quebec, and the "Lively," of Galway, sailed from that port on the same day and for the same place. The "Lively" arrived at Quebec, loaded her cargo, and was 100 miles on her passage home, before the "Mariner" reached; showing the advantages in sailing from Galway Bay as being infinitely superior to any of the southern ports.

Left Liverpool by the royal mail steamer for New York four times, and owing to the sand-banks and shoals of the river Mersey, was obliged to run at half-speed for a considerable distance, to avoid running down ships in the channel, particularly in the north channel, all which would be unnecessary in leaving Galway Bay.

In a gale of wind can come into the bay of Galway through any of the sounds of the Islands of Arran; when inside of them the sea becomes comparatively smooth, and smoother as you approach the roadstead, when any ship can anchor in from 2½ to 6 fathoms at low water, in the very best holding-ground, which consists of blue clay.

There is no wind that blows can prevent any ship entering the bay of Galway.

W.N.W. and W.S.W. are the only winds that can detain ships in the bay, and then only when a ship cannot carry canvas, and not having the aid of them.

The wind at S.W., in getting through the south sound, will weather Slyne Head; with N.W. wind can weather the Blaskets.

Slyne Head is a fine headland; Urrisbeg-hill another; and the Islands of Arran are also fine landfalls, which give sufficient indications of safe landmarks.

Hags Head is good.

If a ship makes either of those landmarks, can in a few hours anchor in Galway Bay.

Should any vessels require a safety harbour, Roundstone, Bertraghbee Bay, Casheen, and Costollo Bay are open to them on the north shore.

Knows Valentia Bay well, and would not take a ship into it in a gale, the entrance being entirely too narrow; would much prefer, for the safety of the ship and crew, to run for Galway Bay.

Soundings can be made outside the Islands of Arran, for about 60 miles, which is of the greatest importance before making the land.

There is also a most perfect safety harbour at Ardfry, within the bay called New Harbour; saw 14 ships ride in perfect safety at anchor, and will hold ships secure with only 15 fathoms of chain.

To make the harbour of Galway perfect, there ought to be a breakwater at Mutton Island, to run south and curving to south-east, by which ships could be protected from all weathers.

Would recommend the angle on Nimmo's pier removed, as being the cause of creating a bar inside it, of about three or four feet high, to prevent which, the angle should be altogether removed or reversed; in this opinion Mr. Townsend and Captain Laurence Moore concur.

Evidence of Commander Patrick O'Malley, of Her Majesty's Cruiser "Eliza."

States that he is about 40 years of age; has been bred to the sea; knows all the bays on the west and south coasts of Ireland. Considers Galway Bay the best for departure to the western world, from its easy access in all weathers from the Atlantic ocean, even in a hurricane, the headlands of Slyne Head to the north, and Loop Head to the south, so completely indicating the entrance to the bay. The Islands of Arran forming a natural breakwater so completely, that when a ship gets inside she is in comparatively smooth water all the way to the roadstead of Galway, where the very best holding-ground is for ships of any burden; and upon the event of any ship not being able to enter, and requiring a safety harbour on the coast, Roundstone, Bertraghbee, Casbeen, or Costollo Bay, is open to her.

Knows the bay of Galway well; for the last 18 years was permanently stationed in the bay of Galway; for about two years, 1847 to 1849, experienced several gales, which his vessel rode in perfect safety, using only ordinary care.

During his 18 years' experience of Galway Bay, never experienced a fog that would prevent

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a ship running into Galway Bay, if she only saw the land previously; having seen but one fog, and that of three or four hours' duration, but not sufficiently dense to prevent her navigation.

The prevailing winds are during the winter, from W. to W.S.W., and Mutton Island there protects the harbour, independent of any improvement otherwise contemplated.

Saw the "Andromache" ride perfectly safe, with his cruiser the "Eliza," the entire time that they had been stationed in Galway Bay, as well as Her Majesty's steamer "Bloodhound."

If he was off the coast, and had Valentia or Galway Bay under his lee, in a gale of wind, would run with confidence for Galway Bay, while he would have great fear in running for Valentia under the same circumstances; has frequently been in Valentia harbour, would not attempt to go in or run out of it in bad weather, from the narrowness of the entrances.

Since his preceding evidence was taken in Galway, it is found that Commander O'Malley has had great experience of the circumstances as to prevailing winds, fogs, shoals, and other impediments of safe navigation affecting the other harbours and ports on the west and south-west coasts; and I would respectfully suggest to the Commissioners the examination of Commander O'Malley on these subjects, either verbally or in writing.

PETER DALY.

Mr. William Evans examined.

Said that he is an extensive shipowner and shipbroker; has much experience in nautical affairs, having acted as pilot about 24 years since, having brought several ships to anchor in the Galway roads, where a ship can ride in perfect safety in any gale of wind, if proper attention is paid by the crews of vessels in giving sufficient length of chain, and being provided with ground-tackle; and if any ship should draw her anchor, it must be from gross neglect of those in charge.

Knows several ships of war to ride out in safety in the heaviest gales of wind, the holding-ground being of such a nature as to lock the ship's anchor.

Recollects seeing the "Orestes," "Fly," "Martin," "Harlequin," "Sappho," and other ships of war, ride out gales without receiving the smallest damage; the "Plumper" frigate remained in the roadstead for about seven years, without removal to any other anchorage; the largest ships can anchor in perfect safety in six fathoms of water at all times of tide.

Considers it absolutely necessary to have the lighthouse of Mutton Island raised, so as to be seen when the Arran lighthouse is lost sight of.

That outside the Islands of Arran, for about 60 miles, the sand of the bottom is of such a peculiar kind, that it indicates distinctly and most satisfactorily to the mariner the entrance to Galway Bay; that north and south of it the sand is quite different..

MY LORD, *Castlemaine, December* 24, 1850.

An inspection of Valentia harbour, and that of the head of Dingle Bay, is to be made in a few days, in reference to the North American packet intercourse; Valentia harbour is ill suited for such a purpose for several reasons, which will be given if required.

Those who advocate Galway, or the south of Cork, are solely actuated by selfish motives. By this injudicious mode the only two eligible situations, and the public good, have been carefully concealed. Permit me, therefore, to point out these two situations to your Lordship. These two situations are marked A, C on the inclosed map, which I prepared five years ago, when employed as engineer of the Wexford and Valentia Railway. I have devoted a very considerable time to the inspection of the coast, and have made several surveys of the country between Wexford, on the east, and round the south-west coast.

Plans have been deposited for making a spacious new harbour, C, end of the red line, and a fine harbour could be made, at small expense, at A end of the blue line. The blue line A, B is finely adapted for a trunk-line of railway betwixt London and North America. The whole line could be made as straight as it is shown on the map. This line would be about 105 miles in length, and it would be 104 miles shorter than the injudicious line laid out by Mr. Gravatt, extending between Wexford and Valentia. My line would avoid all the difficulties, and the 40 miles of barren country through which his line was intended to run.

The red line from C to Clonmell is equally eligible. At the blue letter B in "the Hum of the Bay" at Wexford, is the situation which Mr. Brunell fixed on for the packet station to connect Ireland with the South Wales line. A harbour or basin could be made, at small expense, at St. David's Head, as the water is deep close to the shore. There would only be the basin to cut out.

Should your Lordship's Committee agree on approving of one of the said lines, I will undertake to raise all the capital that would be required to complete the line, without any assistance from Government.

By either of said lines, there would be a saving to the Post Office of about 270 miles per day, while the advantages it would afford to the public would be very great. Thus the public will invariably prefer the direct line and narrow sea, from motives of time, comfort, and economy.

Were the red line perfect, it would afford a fine line for the numerous touriste who annually visit Killarney, and if the blue line be adopted, it would open, perhaps, the most extensive mineral field in Europe, which would afford an immensity of employment. Probably it would be advisable to make the red line from Clonmel, to accommodate the tourists and the North American intercourse; while nine miles of the blue line would be sufficient to convey the produce of the great mineral deposit to the sea-port below Listowel.

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Miscellaneous Letters, Reports, &c.

I may add, that should either of said lines be adopted by your Lordship's Committee, I would introduce *three special improvements*, namely, a new rail, a new axle, and a new wheel. These three improvements would constitute a vast source of saving to the public. Friction and vibration would be completely prevented, and the fares would then average *three farthings per mile* for the first class, *one halfpenny per mile* for the second class, and *one farthing* per mile for the third class. These improvements would constitute a new era in the annals of locomotion, and fan the dying embers of this country's inactivity into a flame of luminous fire.

Should any further information be required respecting this very important subject, I will be happy to give it.

I have, &c.,

The Right Honourable the Earl Granville. ROBERT MCCALL.

Mr. Pawley to Admiral Gordon.

Berehaven harbour is one of those pointed out; and as to its advantages as a port, you have fortunately had an opportunity of judging from experience. From its being formed by Bere Island running parallel to the main land, and the tide ebbing and flowing round each end of the island, there is so little stream of tide at the anchorage that I have seen a fleet of men-of-war riding there in a dead calm, and no two heads of vessels tending to the same point of wind; it is never subject to a heavy sea; you know how it is sheltered from every wind; and in the world there is not better holding-ground. But there are other considerations, besides its being a mere packet station, that may have an influence on the Committee. At the close of the last war, when Lord Maryborough was Chief Secretary for Ireland, Cork harbour, which was the place of rendezvous for the outward-bound fleet, was found to be too small to contain them; and I have seen a fleet, for I lived on the harbour of Cork, occasionally take three days to clear it; and sometimes two-thirds, after having got out, returned again, a trifling shift of wind preventing the remainder from following them. Those disadvantages were considered so great that the Government began to look out for a harbour that way, not subject to them; and the Admiralty directed Lord Edward Thornborough, then Port-Admiral at Cove, to inspect Berehaven, and his report was most favourable, except as to the victualling of large fleets; but we have been going a-head so fast since then, that that difficulty would be laughed at. The Cork merchants were so certain of the change taking place, that one of them actually applied to me for ground on which to build stores, and other accommodations for transacting his business. Peace was immediately proclaimed, and put an end to the arrangement. There is another point of most serious moment to be considered. I take it for granted that you do not agree with friend Bright and the other members of the Peace Congress, that we are never to have war again; and if we have one with France, Ireland would assuredly be the first point of attack. Numerically, the greatest proportion of the population of Ireland are averse to the Government of Great Britain, and that feeling will not be lessened by late occurrences. Where could there be a more favourable spot to establish themselves in than Berehaven harbour? Steam navigation has so done away with all that uncertainty occasioned by shift of wind or weather affecting sailing vessels, that a powerful fleet of steamers, with a well-appointed army on board, may run over and find themselves safe there, even before it was known to the Government they had left France; and you know how easily, and in how short a time, they would put it into such a state of defence as to resist almost any force that could be brought against them. It is little known how narrow an escape we had in 1796, when the French made the attempt to land an army there. The Frenchmen mistook the Dursey Head for the Mizen, and with the wind at south-east they ran down so far to leeward that it took them three days to beat up as far as the eastern point of Bere Island, between which and the southern shore of Bantry Bay they were obliged to come to anchor. The gale increased so that they veered out second cables to each anchor, and after all they were obliged to slip them and go to sea, and that was the reason why the body of the fleet, when returned to the mouth of the bay, made signals to the few ships that got up to Bantry to join them, as they had no cables with which to come to anchor again. With the wind at south-east, as it was at the time, if I had been on board one of their ships, I could have taken the whole fleet through the narrow entrance and placed them in safety in Berehaven harbour on the first of those three days, if I had been so inclined. In the evening of a winter's day, in the year 1802, during the short peace, I happened to be shooting on the cliffs near the western entrance, when I saw six heavy ships firing signal-guns off the Mizen Head, and I sent a yacht out to them to pilot them in. They proved to be a squadron of six three-deckers detached from the Channel fleet under the command of Sir Andrew Mitchell. The yacht fortunately reached them just as they had determined to stand off the land for the night, as the gale was increasing from the south-east, and the crew brought them in through that narrow entrance, and they were soon at anchor. It saved them a night's encounter with, perhaps, the heaviest storm that had been witnessed for that year. I hope the Government will not rue their economy in the defences of both countries. As a place of call, Crookhaven may prove the best spot; but for the accommodation of a large number of vessels, there is nothing on the coast of England or Ireland to be put in comparison with Berehaven. Dunmanus Bay has been mentioned as a proper place, but that is quite exposed to every western gale from the Atlantic and within the last three weeks a vessel has been blown ashore there from dragging her anchors. The masts would be blown out of a vessel in Berehaven before the anchor would stir. I feel, of course, interested in the selection of Berehaven harbour as a packet station, but I assure you I should never have given an opinion on the subject if I was not convinced that it was better calculated for the purpose than any other in Great Britain or Ireland.

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Letter from W. T. Mulvany, Esq., to Sir J. Burgoyne.

MY DEAR SIR JOHN, *Dundrum, Dublin, December* 30, 1850.

I HAVE much pleasure in complying with the wish expressed by you in one of your late letters to me, to have some memoranda from your friends here "in reference to your new Commission to report on Transatlantic Packet Stations."

No doubt you and your colleagues are inundated with partisan and interested views from a multitude of places, and perhaps the only inducement I can offer you to entertain my memoranda is the total absence of partiality.

It is, however, a subject to which, as you are partly aware, I have given occasional attention for the last 15 years. I have long felt it to be important, in a national and peculiarly in an Irish point of view; and in the performance of my various public duties connected with public works, harbours, fisheries, &c., I have taken every opportunity to become personally acquainted with the capabilities and circumstances of our seaports: conducted the actual survey of some, as in the Lower Shannon and Galway, and since you left Ireland, frequently examined others that I was not previously acquainted with.

It is not probable that I can offer much that will be new to you who have studied the subject before, and taken enlarged views on matters connected with Ireland, yet I must claim your indulgence if, with a view to make my observations intelligible, and to disburden my mind of all that has occurred to me, I begin at the beginning and trouble you with the reasons which have influenced me in the opinions I have been led to form on the subject.

MEMORANDA.

Transatlantic Packet Station.

1. Since the publication of the report of the Irish Railway Commissioners, the improvement in transatlantic steam navigation, the extension and completion of many railways throughout Great Britain and Ireland, with the recent completion of the tubular bridge across the Menai Straits, and the extended use of the electric telegraph, even to submarine communication, have materially altered the premises under which this question has to be considered, and justifies a new and independent inquiry into the subject.

2. As a consequence of some of the matters referred to in No. I, the great lines of mail, electric, and passenger communications between Great Britain and Ireland, have become now established, and these lines are, and perhaps always will be the most suitable for this triple purpose, between America, through Ireland on the one hand, and France with the north and east of Europe on the other.

3. It is assumed that the advantages of having the transatlantic packet station somewhere in Ireland is now conceded, or need not be discussed, and that the question now is one of selection of that which is most suitable; whilst it is presumed that Halifax, Cape Canso, or a port near it, or nearly in the same direction, is now generally agreed upon as the most suitable for North American and Canadian communication, and ultimately, perhaps, for mail and electric communication with New Orleans, Mexico, and the West Indies.

4. From the small proportion which the length of Ireland bears to the distance across the Atlantic, it may be assumed to be of minor importance as regards the duration of the voyage, where, on the west coast, the port is selected except so far as the length of voyage is affected by oceanic currents or trade winds, the tendency of which in winter, the worst part of the season, is however believed (from the high latitude attained on homeward-bound voyages) rather to favour a selection more towards the north than south of Ireland.

5. Whilst a good harbour and a westerly position are essential in the selection, it is presumed that mere natural capabilities in the harbour (of shelter, sounding, roadstead, and facility of access), or with the improvement made and making in steam navigation, mere westwardness of position will not determine the selection if other considerations, qualifications, or circumstances of importance hereinafter referred to are wanting.

6. Unless no other port exists or can be used without a serious countervailing sacrifice of time, it is presumed the Commissioners will not recommend nor the Government adopt a station the whole cost of which, with the connecting railway to the interior and port accommodation, and the whole future maintenance of both will depend upon the transatlantic packet communication, that is, on the Government; whilst, as a necessary consequence to this proposition, a preference will be given to that port which, with its railway, will be self-supporting, and in addition to packet communication, has or is well adapted for extensive commercial intercourse and trade, possesses the means for extensive accommodation to shipping, the manufacturers or manufacturing powers to repair, fit out, victual, and otherwise supply the packets, accommodate passengers, troops, &c.

7. Looking to the rapid improvements in science, and especially in expediting communications between nations, and to those which may be anticipated to result from the recent changes in international commercial laws in this country, leading to the adoption of new modes of sending light parcels, or costly, or perishable articles, it is submitted that regard must be had to the *central position* of the station selected; so that whilst it shall be most suited and most nearly in the direct route from the centre of Government and mail communication as established to America, it shall be least removed from the centre and most convenient of access from all the other parts of England, of Wales, of Scotland, and of Ireland itself; but especially from the manufacturing and trading portions of each respectively.

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Miscellaneous Letters, Reports, &c.

8. The harbour for a packet station should be capable of access and egress at all times of tide, and in all weathers that a steam-vessel could live or proceed, if outside the harbour; and it should as much as possible be free from any great tidal influence.

Before proceeding to apply the foregoing principles or tests, if they may be so called, to the selection of a station, a few brief remarks founded mainly on personal observation may be offered as regards some of these harbours which have been much talked of; but to which such strong objections appear as will, in my opinion, lead to their early rejection, and so limit the discussion to two or three ports which most nearly fulfil the required conditions.

The ports in the north-west of Ireland seem by general consent to be admitted as unsuitable for the purpose; they are too much to the eastward, being mostly to the east of the 9th degree of longitude, and with the exception of the small harbour of Killybegs, in the county of Donegal, which is well sheltered and deep, they are all bar or tidal harbours, such as Donegal, Ballyshannon, Sligo, and Ballina; whilst their want of central position and suitability for internal communication with the chief parts of the United Kingdom appear sufficient to exclude them from further consideration.

Broad Haven and Blacksod Bay at Belmullet, Erris, County Mayo, are naturally fine bays, in 10 degrees of W. longitude, and consequently amongst the most westerly available harbours for the purposes; the anchorages sheltered, and in from three to four fathoms at low water: the access from the ocean free from danger or obstruction, and capable by suitable lights of being made more so.

I think they would be considered as possessing a good "land-fall" with the high land of Achill Head, Nephin, &c., as distinctive marks, and we are increasing their utility by the ship canal which we have cut across the isthmus at Belmullet, whereby at high-water vessels may pass from one bay into the other.

Of the several harbours which from their mere westerly position claim attention, these appear to me, owing to their natural advantages and the capabilities of the adjacent country for improvement, entitled to a prominent place; but here end their claims; everything suitable for a packet station, piers, harbours, docks, stores, workshops would have to be created. The country adjacent, chiefly a tract of unreclaimed moorland of more than 200,000 acres in extent; no doubt from its low level and climate, very capable of improvement, but requiring a long time to accomplish it. A railway of from 80 to 120 miles would be required to connect it with the interior, and of this, the future maintenance of at least 40 miles would have to depend mainly upon the packet traffic. No manufacturing power exists in the locality, nor does it afford facilities for creating it, or leading to the expectation of any adequate amount of trade ever to aid importantly in the support of the station; whilst the advantages of its westerly position appear to be more than overbalanced by its want of centrality for communication with the different parts of the empire.

West Port and New Port or Clew Bay, though easy of access, is full of islands and shoal water at its upper end; would require a railway, a harbour, and all the concomitants of a packet station to be created; and, though possessing a vein of good country at its back, embraced between two ranges of mountains, and having large capabilities of manufacture at both towns, partakes of the same objection, though not by any means to the same extent as Belmullet, of want of centrality and facility of access to other parts of the kingdom.

Killery Harbour, though sheltered and deep, is not facile of entrance, and lies between lofty ranges of barren mountains.

Ballinakill Harbour, Clifden, Roundstone, and Kilkerrin Bays, though holding a very westerly position and possessing deep water and sheltered anchorages for local trade, are surrounded by too many obstacles, outlying rocks, and small islands, to be safe of access for constant transatlantic traffic; and are, besides, situate like Belmullet, in remote and only partially reclaimed wild tracts of Connemara, in which every accommodation for a packet station with the connecting railway would have to be created and maintained, almost solely for the purpose of the packet station.

Smerwick Harbour and Ventry, north of Dingle Bay, are among the most westerly on the coast of Ireland. I have not seen these harbours, but from the information of others, from good charts, and the Ordnance Survey, it appears they naturally possess great advantages of form, deep water, and shelter, though likely from their small size to have a great run of sea in stormy weather.

Bandon Hill, near and over these harbours, is a fine land-mark from the sea, but the Blasquet Islands and Rocks, lying off the headland to these harbours and Dingle Bay, are amongst the most dangerous obstacles to navigation on the south-west coast of Ireland.

Valentia Harbour, that has been so much and so frequently spoken of, appears, from any examination I have made, to have been exceedingly over-rated, even as regards its natural capabilities as a harbour, mainly from the difficulties of its entrance.

Berehaven I have not seen, but it is admittedly amongst the best of the harbours on this coast.

Long Island and Skull Harbours I have seen, and taken as one harbour, with Crookhaven as an adjunct, are excellent natural harbours, and their facility of access greatly improved and freed from danger by the new light on the Fasnet Rock: whilst Baltimore in the vicinity of Clear Island possesses in its position important advantages.

But the claims of all these places appear to me to be embraced in, and terminate with, the natural capabilities of their harbours, and their westerly position, diminished perhaps

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to some extent by the outlying rocks off the headland of the peninsulas which form these bays.

These harbours are all situate in wild, remote, mountainous districts, scarcely (in fact not) possessing the natural means of sustaining their own population since the failure of the potato crop: they are all stations in which nearly every requisite for harbour and packet accommodation, with towns, stores, barracks, and the numerous other wants of such a station, would have to be created at very great expense, and maintained solely for the purpose of the packet station; as, from the nature and limited extent of the adjacent country, its height, character, and disposition, there can be no self-supporting trade to aid in any material degree to maintain an establishment; whilst superadded should be the construction of some 40 to 60 or 70 miles of railway through very difficult and expensive tracts of country, affording for 20 or 25 miles of the western ends of any of the lines to these points no traffic beyond that created by the packet station.

So much importance has been popularly attached to the selection of a station on the south-western portion of the island, that it appears to me the question of their value cannot be too closely examined or too directly met. Their want of central position, as regards mail and electric communication with England, and especially the north of England and Scotland (more adverted to hereafter), and with other parts of Ireland, appears in itself to preclude a selection of any of them, even were the local circumstances and facility of access from the interior far more favourable than they are; whilst, even supposing these expensive difficulties overcome, the gain in time, as compared with the self-supporting ports, a full degree of longitude to the east, would not, perhaps, exceed an hour or an hour and a-half, a matter of very small moment in such a voyage, to be gained not only at enormous original outlay and constantly pressing heavy expense to the country, but also to the probable prevention of the establishment of a considerable commercial trade, which must inevitably be the result of selecting a port which would be suited for the double purpose of a packet station and a fit centre for commercial traffic.

It is quite true that Baltimore or Long Island might be adopted as a port of call for electric despatches for vessels going to the southward, but even this could not be done without incurring considerable expense with very slight, if any, commensurate advantages over the present system, and certainly with none equivalent to the selection of Queenstown (Cove of Cork) for this purpose, which also has the advantage of an existing railway very near it, and might, therefore, have mail as well as electric communications, and a passenger traffic.

Under all these circumstances, and having regard to the principles referred to in these memoranda, it appears probable that the discussion for selection will ultimately be confined to the comparative merits and capabilities of Cork, a port in the lower Shannon, and Galway, as the really available ports for a transatlantic packet station. Limerick itself has been mentioned, and though possessing great capabilities for foreign trade and considerable existing trade, which no doubt will go on increasing, no matter what station is selected, yet it is hardly probable that a tidal port at the head of an estuary 60 miles in length, and the last 12 or 15 of which are embarrassed with shoals, rendering the navigation only available at high-water, can ever seriously be considered as suitable for a packet station; at least, suitable for that rapid and certain despatch of mails and electric despatches which are becoming essential necessaries in our communications with the world, and the conviction of which necessity urges mainly the change from the present system.

In discussing the respective capabilities of these ports, with a view to the selection of a transatlantic packet station, there are certain facts adverted to in the first eight paragraphs of these memoranda which appear importantly to affect or aid a decision.

Upon the annexed map of the British Isles I have strongly designated by red colours the system of railways of Great Britain and Ireland.

The situation of Ireland is peculiarly favourable for the purpose of transatlantic communication; it lies as nearly as possible opposite the centre of Great Britain, and the centre of Ireland is opposite to the centre of the manufacturing parts of England, and in the direct route to America, and through it, to the whole of the western continent for mail and electric telegraph communication.

Holyhead, nearly in the centre of England, has, after the most mature investigation, both by committees of the Legislature and examination by competent authorities, been established as the mail port from England (and consequently from France and the rest of Europe) to Ireland, and the construction of the Chester and Holyhead Railway, with the tubular bridge over the Menai Straits, may reasonably be deemed to consummate its establishment.

Dublin, therefore, necessarily becomes the corresponding Irish port, even independently of its central position, and its claims as the metropolitan city, seat of government, centre of Irish railway system, and Irish mail communications.

Again, as regards the north of England and the whole of Scotland, Belfast, either through Port Patrick and Donaghadee, or possibly through Lough Rhynn and Larne, naturally and necessarily becomes the Irish entrepôt of passenger, mail, and electric communication.

There can be little doubt that through either, and probably through both of these routes from Holyhead to Dublin, and Scotland to Belfast, the system of electric telegraph communication will be, ere long, extended to Ireland.

Belfast and the adjacent manufacturing districts of the north of Ireland have perhaps more communication with the transatlantic world than all the rest of Ireland; and independent of the position of Belfast, as the port for Scotland and north of England, the

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Miscellaneous Letters, Reports, &c.

interests and convenience of the north of Ireland should receive the fullest consideration in selecting a transatlantic packet station.

Thus, then, it appears Dublin and Belfast on the east coast are the great centres from which the communications and passengers from Great Britain, and probably from a large portion of Europe, should have to proceed to America, and by which to return; and the question is, Should the route from America to Dublin and Belfast be by Cork, by Tarbert on the Shannon, or by Galway?

Were the directness of the route and the central position of the port the only considerations, there could be little hesitation in choosing Galway, as will be seen from an inspection of the map of the British Isles, on which I have drawn radial lines from Galway to the extremes of Great Britain, to the centre of its manufacturing and commercial districts, and to other places of importance; and a little examination of these lines will show how remarkably near the established routes, or those either in progress of formation, or necessary to be formed for the internal traffic of the country itself, these direct or radial lines approximate. But other circumstances are involved in the claim and demand attention. And first, as regards Cork:—

It is unnecessary to detail the advantages of its well-known harbour, or its suitability *per se* for a packet station, possessing, in addition to its natural qualifications, a naval station, a commercial city, either with the resources or the ready means for their acquirement necessary for such a station, and an excellent railway to Dublin, with branches to Limerick and Carlow, and another in progress to Waterford. There is but little water or natural manufacturing power in Cork, and what does exist should, for the benefit of the port, be removed, in order to let the tide flow above the city; but this want would be less felt here than in any port on the western coast, from the facility with which coal for steam power may be imported from Wales. The country immediately around Cork, especially to the eastward, is very fine and productive, and the people of Cork are enterprising and much more advanced than their neighbours in the principles of trade, the arts and sciences generally.

But the entrance of Cork harbour is, it is submitted, far too much to the eastward, with a long line of coasting navigation westerly, to afford adequate advantages for changing from the present system, and would, as regards these facts alone, fail to fulfil the expectations and demands sought by the establishment of a transatlantic station; whilst instead of being in or near the centre, it is in the southern extremity of Ireland, a longer journey from Dublin than ports fully a degree further west, and involving almost the longest possible journey from Belfast, though lying only about two degrees of longitude west of Dublin and Belfast.

As before mentioned, it may be useful, and no doubt when the electric telegraph is established will be used, as a port of call for vessels bound to the southward; but as a transatlantic packet station, the time gained at the cost of so much additional distance travelled from the centres of British traffic would, as it appears to me, hardly compensate for the change; and all things considered, Cork does not appear entitled to the preference.

The next port for consideration is one in the estuary of the Shannon, and Tarbert has been most frequently alluded to, though Foynes has been spoken of; and perhaps, as regards the mere question of the capabilities of a port, Kilrush, with Scattery Roads adjacent, might be better entitled to notice, except that it is at the wrong side of the river for facile access by railway from Limerick, and consequently from Dublin.

You are aware that in 1836-37 surveys in very minute detail were made for the Shannon Commission, under my personal directions, of all the available harbours on the Lower Shannon, and should you wish to refresh your recollection with reference to them you will find them lithographed in the plans appended to the Second Report of the Shannon Commission of Inquiry, dated 5th December, 1837, and presented to Parliament. Upon these plans you will find, accurately delineated, the result of a long series of tidal observations, the soundings in feet at low water, and the direction and velocities of the tides at half-flood and half-ebb. These details, upon which entire reliance may be placed, with any good chart of the Lower Shannon, such as Hobbs', or, better still, that of the Admiralty, which is now published, will bring the whole of the estuary before you.

Though no doubt a noble estuary, I cannot, with a very intimate knowledge of it, but feel that the strong tides which prevail in it are more suitable to the purposes of purely commercial traffic, which would allow of vessels waiting to avail themselves of the flow or ebb, than to packet communications, which, to ensure regularity of despatch and arrival, should be as far as possible independent of tidal influence.

Now the tides of flood and ebb all through the Lower Shannon are very strong, but particularly so at Kilstraffeen Bank near Kilcredaan point, at the inner mouth of the Shannon, off Money Point, and at the "race" of Tarbert and the sea which rises at these places, but especially at the Kilstraffeen Bank when the wind and tide are opposed to each other, is highly dangerous, and to proceed either up or down such an estuary for 20 or 25 miles, against a tide that makes so strong as it does in the Shannon, would be found a serious drawback in time against any advantage obtained by the westerly position of the port; whilst also such an estuary is not so free as open bays from fogs.

The steamers that ply on the Shannon from Limerick to Kilrush almost invariably go with the tides and make the voyage, I think, in three or four hours; when accident causes them to stem the tide, the delay is very great. On full and change days it is high water at Loop Head about 3 o'clock, and the tide rises about 12 feet, whilst it is not high water at Limerick until 6 o'clock, and the tide rises 20 feet. The result of these facts on the tides and navigation can be easily appreciated.

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No doubt the powerful class of steamers which are, and will be, used for transatlantic packet communication, would be able to cope with many of these difficulties when arising; but, as it appears to me, not without loss of power and time, which could only be compensated for by other and superior advantages in the port selected. At all events, from all these circumstances and other considerations which naturally suggest themselves, the shorter distance up the estuary the packets have to go the better.

Carrigaholt, the nearest practicable place to the mouth, is in itself, in my opinion, unsuitable, and with Kilrush or any other place on the north side must, as it appears to me, be rejected from the expense and want of facility of access by railway from either Dublin or Belfast.

The next available port up the estuary is Tarbert, and as it is, or could be made available, there is under the circumstances detailed, no justification for bringing packets more to the eastward or higher up the estuary; and the merits of the Shannon as a transatlantic packet station may most fairly be tested by considering the suitability of Tarbert as the port for the purpose.

One of the important advantages in selecting any port in the Shannon is that the Shannon navigation now opened is connected with nearly all the inland navigations of the centre and east of Ireland; and upon the completion of the junction canal from Leitrim to Lough Erne, in about another year, will be connected with all those in the north of Ireland to Enniskillen, Coleraine, Belfast, and Newry, with the intermediate places. And although the prospect does not seem very immediate, I entertain a strong hope that these advantages, with the position of Limerick, will, independent of the establishment of a packet station, ultimately lead to considerable trade with America; and any such trade, if in existence, would be entitled to great consideration in fixing the station, as it would tend to give it support.

The capabilities of Tarbert itself, as a port for packets, are best illustrated by the map of it in the Second Report of the Shannon Commissioners already adverted to; it is well sheltered, good holding ground, and has sufficient depth of water in the roadstead. The port is, however, as may be seen, very small at low water, the oyster-bank, which is very shoal, occupying the best portion of it, and the tide of ebb sets very strongly through it into the race outside the point. The pier proposed by the Shannon Commissioners has not been built, and there is no landing place but a small structure belonging to the City of Dublin Steam Packet Company; and I need not tell you that there are no docks, slips, manufactures or other accommodation whatsoever suitable for a place of shipping. The village is a very poor one, and the country at the back of it not very promising; so that in fact Tarbert itself is not calculated to be a place of commerce; or, if selected, anything more than a place for arrival and departure of mails and passengers. Limerick, which is from 30 miles by water above it, being naturally, and perhaps at all future times the centre of commerce and trade for that country.

Were Tarbert to be selected, it would involve the construction of about 30 miles of railway, which could not be a very profitable undertaking, as it should run alongside a navigable estuary like the Shannon, where goods and passengers are at present carried on the most moderate terms (more so than would pay a railway) by steam-vessels available to both sides of the estuary.

However favourably Tarbert may be situated, as regards the inland navigation of Ireland, it is clear, from an inspection of the annexed map, showing the railway system of the kingdom, that it is far from being favourably situated as regards railway communication from the north of Ireland and Scotland, without any commensurate advantage to the south and south-east of Ireland, judging from the railways constructed or which it will be necessary to construct for the local traffic of this part of the kingdom. Whilst as compared with Galway, it is clear that Tarbert is much more out of the direct route from the established centres, Dublin and Belfast, to America, and consequently entailing longer and more expensive journeys from each, especially the latter.

Although, therefore, the natural capabilities of Tarbert and the Shannon are very great, and entitle it, in my opinion, to a preference over every other place I have adverted to, except Galway, I am inclined to think that the more minutely and carefully the matter is investigated by impartial judges thoroughly cognizant of the facts of the case, either by their own observation or the testimony of disinterested witnesses; and supposing them to be guided by similar principles to those which I have prescribed for myself, the more weight will be attached to the objections which influence my mind in not preferring Tarbert to Galway, namely,—

1st. The want of local combination of packet station and port for trade and commerce.

2nd. The want of central position with respect to the great centres of mail passenger and electric communication, and consequent loss of time.

3rd. The long estuary approach with the increased difficulties of strong tides and short dangerous seas to be encountered, often in storms, in thick weather, or in dark nights.

4th. The want of all the necessary works and adjuncts of a packet station, and the cost of constructing a railway to approach it.

It remains, then, to consider the claims of Galway and detail the reasons why it should be preferred as the transatlantic packet station; and in doing so it appears convenient to refer to them under the separate heads of its central position, the capabilities of the bay and harbour, and the capabilities of the town and its vicinity for commerce as well as packet accommodation.

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Miscellaneous Letters, Reports, &c.

Central Position.

In referring to the accompanying map of the British Islands I have already adverted to this subject; and the map shows that in a general way, Galway may be considered as nearly equidistant from Londonderry, Belfast, Dublin, Waterford, and Cork; and still more nearly equidistant from Edinburgh, Newcastle, York or Wakefield, Hull, Birmingham, Bristol, and Plymouth; whilst it will be seen that a straight line drawn through or near Hull, Sheffield, Manchester, Liverpool, Holyhead, and Dublin, passes through Galway on the direct route to the nearest available port in America.

The direction of the great main trunk lines of railway and their principal branches favour in a somewhat remarkable degree, by their convergence, the selection of Galway as a suitable centre; the establishment of which, as a transatlantic packet station would interfere least with the great portion of the railways already constructed, and would rather beneficially decide the direction of other local lines required than otherwise affect them.

Reverting to the establishment of Dublin and Belfast as the Irish ports for mail, electric, and passenger communication with England and Scotland, it is clear that whilst Galway is on the direct route from Dublin to North America, it is at the same time the available port least out of the direct course from Belfast and the north of Ireland generally; whilst it is equally favourable as regards directness for Waterford and the south-east of Ireland.

The railway from Dublin to Galway, now far advanced towards completion, and which it is expected will be opened next August, will through Dublin afford the means for communication by railway between Galway and all other parts of Ireland in which railways have as yet been or are now being constructed, except from Londonderry to Strabane; whilst the Galway Railway crossing the Shannon at Athlone is thereby placed, in the most central position, in direct communication with the whole of the inland navigations of Ireland, as shown on the map: and preparations are now being made by the City of Dublin Steam Packet Company and others to direct their principal lines of carrying traffic to and from Athlone.

As regards the further carrying out of the railway system in Ireland, and assuming Galway to be adopted as the transatlantic packet station, it is remarkable how the lines most required and best adapted for the local traffic will, without much detour, suit communication with Galway.

For example, the line from Londonderry to Enniskillen is long determined on; so also, the extension of the Belfast and Armagh line to Monaghan, Clones, and by another company, thence to Enniskillen. There can be little doubt that from these a connexion will be made by Cavan with the Midland Great Western Railway; indeed coaches and caravans are already established from that part of the country to Mullingar; and thus the north would become, in a sufficiently direct route, connected with Galway.

The Act is passed for the line from Mullingar to Longford, and the line laid out to Sligo; from Longford I anticipate a branch must before many years be made to Castlebar, Ballina, and Westport; and off this line a short branch by Tuam to Galway would connect every portion of the country north of the Midland Great Western Railway with Galway.

As regards the south of Ireland, the Limerick and Waterford line is partly completed, and the whole is now placed in such circumstances as to render its completion certain; and the Kilkenny and Waterford line is also progressing; a line from Limerick to Ennis has long been deemed indispensable, and all that would be required to complete the connexion of the whole south of Ireland with Galway, would be the line from Ennis by Gort to Galway, which is at present a line of mail communication.

But the matter most favourable to Galway, is that, pending the undertaking or completion of these lines, the construction of the Galway Railway affords a present means of communication, though somewhat circuitous; and that for the south of Ireland, the steam navigation at present carried on by the Shannon from Limerick to Athlone would suffice.

Galway is not only thus centrally situated with regard to the rest of Ireland, to Scotland, and to England, but it also forms the natural centre for the local trade of a very large district, varying in extent from 20 to 40 miles all round it. Instead of being a barren terminus like many of the more remote harbours already referred to, it is the focus of many important communications from the surrounding interior by means of excellent roads converging to it, and the inland navigations of Loughs Corrib, Mask, and Carra now being opened up and improved; but especially by its favourable position at the head of a capacious bay, towards which converge the coasts of a large portion of that part of Ireland; thus affording a considerable coasting trade, which I have no doubt will, with its important fisheries, be considerably stimulated and increased on the completion of the railway.

Capabilities of the Bay and Harbour of Galway.

The bay, whether regarded with reference to its extent, depth of water, general freedom from obstruction, facility, and I would say, from its leeward position, safety of access, or the sheltering influence of the Arran Isles, is, in my opinion, one of the best, if not the best, on the west coast of Ireland for the double purposes of steam and sail navigation. It has from 20 to 30 miles of comparatively sheltered navigation, yet with plenty of sea-room, exemption from injurious tidal influence, and numerous adjacent inlets and harbours within itself, or near the northern entrance, available in case of need.

The high lands of Connemara on the north, and of Clare on the south, with the defined

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character of the islands of Arran, clearly enough indicate the entrance by day; whilst the double lighthouses at Slyne Head, the revolving light on Arran Island (493 feet above the level of the sea), and the light on Loop Head at the mouth of the Shannon, with their peculiar characteristics; and, owing to the great fishing-banks, the distinctive nature of the soundings off each respectively, afford a tolerably fair security against mistakes by night.

The coast of Clare, from Loop Head to the Southern Sound, or entrance to Galway Bay, is bold and deep, but dangerous from the absence of harbours and inlets; and from Slyne Head to Lettermullan Island, at the northern extremity of the Northern Sound, the entrances to the Bays of Roundstone, Birterhury, and Kilkerrin, have several outlying islands and rocks, such as the Skirds, which show above water; but both these coasts, it will be seen, trend favourably towards Galway Bay; and there is ample sea room for access by any of the passages, without coming near either of them, and the coast is not subject to fogs, so that any one of the prominent points or lights being made, there is no difficulty of moment to be encountered in making the entrance, and proceeding up the Bay to the roadstead of Galway.

The only obstruction to be met with from the Arran Islands to the roadstead is, the Black Rock, marked by a beacon close to the north shore, and the "Santa Marguerita" Rock (having two fathoms at lowest water of springs), marked by a buoy on the south side; but these are close to the roadstead, within the limits of the pilotage, well known and defined on Nimmo's chart (*see* annexed copy), with plenty of space between them, and good leading marks to avoid them, which may be still further improved, if found necessary; or possibly the "Santa Marguerita" Rock itself may be cheaply removed by blasting.

The Bay of Galway, it will be observed, lies between the 9th and 10th degrees of west longitude. In fact, the roadstead of Galway is situated about two statute miles to the west of the 9th degree of longitude, and is only about 13 statute miles to the eastward of the longitude of Tarbert; so that taking into consideration the difference in length of railway from Dublin to the two places, with the injurious effects of tides and estuary navigation for 20 or 25 miles at least, to the westward of Tarbert, as compared with the fine open Bay of Galway, there is no doubt on my mind that (even independently of the question of the north of Ireland and Scotland) there would be a great gain in time by the Galway route.

The roadstead at Galway is capacious and deep, having from two to four fathoms at low-water spring tides, and sheltered from the prevalent winds by Mutton Island, and the bank or shoal which connects it with the mainland on the north, and which dries at low water.

It is similarly sheltered or enclosed on the east by Hare Island, and the shoal or bank connecting it with the land; and on the south, by the lands of Kilcorgan; whilst the extent and long stretch of Oranmore Bay to the eastward affords a favourable space for the sea in westerly and south-westerly gales to expend itself, passing by rather than injuriously entering the roadstead. At least, in connexion with measures for improving the shelter of the roadstead, it is peculiarly adapted to have this effect to a very beneficial extent.

There is a good inner and tidal harbour and capacious dock at Galway, with 16 to 18 feet water impounded in the latter, and wide entrance; and we are constructing a tidal basin in connexion with the navigation to Lough Corrib; whilst Lough Athalia has been expressly reserved for docks and a place of shipping; and the Railway Company, through the instrumentality of the Admiralty and ourselves have, in crossing its entrance, constructed a double swivel-bridge, with ample width for large class steamers.

The accompanying copy of Nimmo's chart of Galway, and sheet 94 of the Ordnance survey of the county of Galway, upon which I have marked the line of railway, indicate more clearly than any written description the capabilities of the port, and show that upon the opening of the railway in August next, the place as it is, with the accommodation of the town, dock, and fine natural roadstead, might at once, with little expenditure, be used as a transatlantic packet station.

This fact, independent of all the other more important considerations adverted to, serves to confirm me in recommending the adoption of this port, and will, no doubt, have its due weight with the Commissioners of Inquiry.

But should Galway be selected, after mature consideration, and established as the packet station, I would, both for the purposes of packet accommodation and the commerce of the place, think it necessary that the mole or breakwater so often spoken of, from the shore to Mutton Island, should be constructed to increase the shelter and improve the roadstead and harbour generally.

I have often considered this subject during and since the years 1834 and 1835, and to make the project complete, am of opinion, that the mole should be extended, as I have drawn it on the maps, into deep water (five fathoms), to the south of Mutton Island, and thereby not only increase the extent of sheltered anchorage, but by its direction serve to turn aside the force of the sea in heavy weather, and afford the means of constructing a pier and inner jetty, from which the steam packets would directly receive their freight, passengers, and mails.

I have shown on the plan how a short extension of the railway may be made from the present terminal station across the River Corrib, along the mole to the steamer jetty at Mutton Island. Every facility exists in the locality for the construction of this mole. A large portion of the bank or shoal between Mutton Island and the land dries every tide.

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Miscellaneous Letters, Reports, &c.

and at low water of spring tides the whole dries, so that people go on foot into the island. Abundance of granite and other rocks suitable for the structure exists in the immediate neighbourhood, and with the experience now gained in the construction of such works, I am convinced that this work might, under proper management, be constructed for a moderate sum, one greatly below the value of the work to the commercial interests of the country. I contemplate that with the aid of a very high storm or parapet-wall on the western side of the mole and pier, the shelter to the harbour would be nearly perfect, and thus completed, it would be made a very strong and important post in time of war—easily defended, and capable of containing, refitting and victualling a great number of vessels; and from its central position, of receiving from or distributing to the interior large bodies of troops, and the munitions of war.

The shoal at the mouth of Lough Athalia, under the great viaduct and double swivel-bridge now constructing for the railway, would be removed at a comparatively small expense; and the whole lough might in time be made a great tidal basin, available for vessels of considerable draught of water, with or without a tidal lock and regulating weir; whilst the space near the Claddagh, inside the new fishing-quay wall constructed by us, and perhaps some portion of the shoal or bank to Mutton Island, would be available for slips, graving-docks, ship-building yards, ropewalks, and the other concomitant necessities of such a station.

Capabilities of Galway for Commerce.

In former times Galway had considerable trade with Spain and Portugal, and some slight intercourse even still exists. Since the construction of the floating-dock, the trade of various kinds to the place has considerably increased, notwithstanding the greatly depressing effects of the late famine.

Independent of its central position and the advantages of the harbour, the local circumstances of the town are peculiarly favourable to the development and rapid increase of trade and manufacture, when skill and enterprise are brought to bear upon the natural capabilities which are now being made available under the provisions for the Acts for drainage, navigation, and mill power.

The accompanying tracing, No. 4, shows a general plan of the improvements in progress through the town to Lough Corrib.

The general features of the Lough Corrib improvement measure is, to connect the natural navigation of Lough Corrib, about 25 miles long, with the sea at Galway; to connect Lough Corrib with Lough Mask, by a canal of about 3½ miles, and a lockage of about 36 feet, and thus extend the navigation up to Lough Carra, and to the town of Ballinrobe, close to some of the richest lands in Mayo, whilst a vast extent of lands now injured by floods are to be drained along these lakes and their tributary rivers to the remote parts of the counties of Galway and Mayo.

In connexion with these measures of improvement is the formation of very important and powerful mill sites at Cong, between Loughs Corrib and Mask, with 36 feet of available fall, and permanent supply of water from Loughs Mask and Carra (containing 22,000 acres of reservoir), and their tributaries; whilst at Galway the whole water supply of the existing mills and factories is being remodelled, and nearly quadrupled in power, and new mill sites of great power formed.

There are 27 mills of different kinds, including corn-mills, two distilleries, two breweries, paper-mill, marble saw-mills, tannery, wool-factory, and tuck-mills, which derived very unequal and partial supplies, for very small falls applied to very inefficient machinery; and so badly was the water-power arranged previous to the interposition of the Board of Works, that many of these mills were wholly unable to work at some periods in summer, whilst a large river was flowing by them unemployed to the sea.

The project which we are carrying out renders it practicable to utilize nearly the whole of the waters of this extensive district, containing 66,000 acres of lakes as reservoirs, and a catchment basin of 780,000 acres; and it is so arranged, that every mill or factory existing, or which may be formed, will draw its supply direct from the lake, and generally have the benefit of the whole fall between the lake and the sea.

Taking the minimum supply of water of the district without the adoption of measures for damming up or conserving supplies (which might be carried to a great extent), there is no doubt that from 1,500 to 2,000 horse-power may with facility be rendered available in the short space of half a mile in the centre of a sea-port town, and where every mill and factory will have navigation available to its door. This remodelling of the mill-power is at present in progress, and has this year been carried successfully into operation in one large establishment, marked "Newcastle Distillery" on the tracing, where, in lieu of an uncertain fall of about 1 foot, we have given a fine wheel of 40 horse-power or more with a fall of nearly 10 feet.

The milling interests are readily availing themselves of these improvements, and stimulated by the construction of the railway, I entertain little doubt but this important and valuable motive power will be applied in various ways, including the manufacture of flour, woollen and linen cloths, timber and marble saw-mills, iron works, &c., as the trade of the place improves and demands them.

With such advantages as these, the stimulus of a railway to Dublin, an inland steam navigation of 40 miles into the interior, an important and hitherto only partially worked fishery, the drainage of many thousands of acres of the best lands effected, and the benefit of the incumbered estates rapidly passing or about to pass into the hands of capitalists, or at least unembarrassed proprietors, it is rational to expect that, however unlikely it might.

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now appear to a stranger, Galway must quickly become a place of considerable trade, and especially with the American colonies and the United States.

At all events, its central position in the west of Ireland, of which it may be deemed the metropolis, combined with the natural advantages I have described, render it "self-supporting," and, if adopted as the transatlantic packet station, it appears to me the best calculated to fulfil the condition of a combined packet station and port for commerce.

One of the necessary results of adopting a port calculated for commerce as the packet station would be to infuse a new vitality and enterprise in the whole adjacent country, and the advantage of producing such a result in the very centre—the very heart of Connaught and the west of Ireland—is too important and palpable, in a national point of view, to need any comment, even though it should only be as the collateral effect of adopting the best "available" harbour.

Another consideration, that no doubt will have its due weight with the Commissioners, is the tide of emigration that continually flows from the United Kingdom to the western world. No doubt, upon the establishment of a packet station, with the rapid advances now making in the appreciation of time and the profit to be made by cheap and quick communication, steam power will be made available on sufficiently moderate terms to accommodate even the poorer classes. But whether steam or sails be used, it is clearly important that the port of departure should be central; and in this point, again, the position of Galway seems peculiarly favourable, especially when so large a proportion of the emigration takes place from Ireland.

Many matters of interesting detail connected with the subject suggest themselves which would occupy too much time to refer to, but it appears to me as essential to obtaining the full advantages of the system, that the mails or luggage made up, for instance, in London, should not be removed from their cases until being about to be put on board the steamer at the pier in Galway; that the line of rails at Holyhead, at Kingstown, and at Galway should go alongside the vessels, and the cases be so made as to fit on railway trucks, and pack easily in the cross-channel steamer. To carry out this and many other important objects, a connexion should be made between the Kingstown and Galway Railways in Dublin, and perhaps in effecting this a junction may be made between all the railways that enter Dublin.

From all the information I have been enabled to get, and my own knowledge of the lines, I think that it will be quite practicable by the Galway route for mails and passengers to get to the 10th degree of west longitude, or nearly abreast of Slyne Head, one of the most westerly points of Ireland, in 19, or at most in 20 hours from London, and proportionately from other places. Independently of all the dangers, delays, tides, fogs, and chances of collision with vessels in the channel navigation, this would be such an important acceleration in time, that one can hardly now anticipate any such retrograde step or check upon the determined spirit of the times as the selection of a port on the west coast of England for a transatlantic station.

But even if this should be mooted, the cost and tonnage of coals required to steam up and down the Channel, as referred to in recent publications, and the anomaly of bringing passengers and their luggage out of their course, or back from Ireland, would so tend to make the proposition a half measure, or so lessen the profit of the undertaking to contractors, as, ere long, to open the eyes of the public to the mistake, and invite private or American competition through a port in the west of Ireland, most probably Galway.

No; the electric telegraph is the fact of the day. The last news, whether in time of peace or war, which it will be possible to convey from Europe to America, the West Indies, and perhaps ultimately to places still far more remote, or *vice versâ*, is becoming every day more and more a necessity. Ports of call are generally too inconvenient and expensive, and involve too much loss of time. And once the electric communication is effected across the Channel, either by submarine line, or even by quick steamers, and thence across Ireland, it will be indispensable that American packets shall start from, and arrive at, the most westerly "available" port in the west of Ireland, and the most easterly "available" port in North America.

To discuss this general question is almost foreign to the object of these memoranda, which are mainly intended to furnish the results of any local and practical knowledge which I possess to aid in the selection of a port in Ireland, assuming, as I have done, that the principle of starting from Ireland was conceded. But in giving the necessary consideration to the whole subject, one cannot avoid being struck with the important results to the United Kingdom, from adopting a complete measure.

In so important a project as establishing the highway to connect the New and Old World, and with the advance now made and making in science, the best line must be adopted, and that, too, from which there shall be no probable reason to change. The journey between London and New York must ultimately be made in seven days, or perhaps less; whilst, with the aid of the electric telegraph, news must be conveyed between these places, and others far more remote, in about five days, or in a few hours more than shall be requisite to navigate between the nearest available points of the New and Old World.

Once such objects are effected, and that must be very shortly after they are recognised as attainable, the United Kingdom must command for her railways, her ports, her post-office, and, to a large extent, for her shipping, the business of communication between North America and the greater part of Europe, with all the advantages to commerce, political influence and power to result from such an arrangement.

But to secure this, local interests, however powerful and pressed, and ancient prejudices, whether in politics or matters of science, must be put in abeyance; the most complete and

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Miscellaneous Letters, Reports, &c.

perfect measures must be adopted; and there seems every reason to believe that the course which will be best for this great international communication will prove the most beneficial to the general interest, and best calculated to develop the general resources of Great Britain and Ireland.

I have, &c.,

Major-Gen. Sir John F. Burgoyne, K.C.B. WM. T. MULVANY.

MY DEAR SIR JOHN, *Dundrum, near Dublin, January* 18, 1851.

SINCE I forwarded to you the memoranda requested on the subject of transatlantic packet stations, I perceive by the newspapers that rumours are circulated to the effect, that Holyhead, in Wales, is likely to be selected, for the present at least, in lieu of any port in the west of Ireland.

I can readily understand, when the harbour there is completed, and wharfs made into deep water, that it should be preferred for packet purposes to the tidal harbour of Liverpool; but if a port in the west of Ireland, say Galway, serves more equally the interests of the United Kingdom, and admittedly saves to all parts of it much more time than Holyhead, I think it may be shown to be wrong, in policy, in economy, and in fact, to allow any minor considerations to influence a decision in favour of Holyhead.

In this important measure, I think, "ports of call" are inadmissible,—experience has proved it,—as I understand, in other cases. Sailors justly dread them; and I think, upon a calculation, it could readily be shown that the expense of steaming, risk, insurance, harassing duty to officers and crew, were more than the advantage gained was worth. In fact it is a half measure, and therefore not final nor satisfactory to any. The decision, however, must rest on higher grounds than either the advantages or objections to Holyhead as a "port of call."

There appears to me to be some fallacy in the statements put forth in the papers, as to the saving of time, arising from adopting a port in Ireland, or that of Liverpool or Holyhead.

Although it is, I see, admitted that any port in the west of Ireland has a great advantage in point of time, as compared with Holyhead, it is clearly erroneous to test the comparative advantages by assuming Holyhead as the sole point of departure for either passengers, mails, or electric despatches. This would be to leave Scotland, South Wales, and the south-west of England out of consideration; and nearly to forget the existence of Ireland, which is reputed to have more mail communication, and far more passenger traffic with America than the rest of the country.

No doubt the more intercourse with America be expedited the greater will be the amount in value of the communications and traffic passing through Holyhead,—from the Continent, for instance; but in measuring the relative advantages of stations, the business of, and saving of time to, other portions of the kingdom, must have their due weight.

Again, the saving in time to the passenger or letter on the whole journey from the United Kingdom to America is by no means the full measure of the advantage. There are, besides the important saving in time in electric despatches, others of an economic character, hereinafter referred to, that ultimately must weigh strongly in deciding on a port in the west of Ireland.

The subject can, perhaps, best be illustrated by taking actual cases, and by using the 10th degree of west longitude as a common limit or line for comparison, on either outward or homeward bound voyages.

I take Galway, as shown in my previous memoranda, to be, in my opinion, the most central, suitable, and available port in Ireland, and consequently the most favourable to Ireland in the comparison; and I take Holyhead and Liverpool as those selected and most favourable for England.

I have accidentally met with the abstracts of two logs of transatlantic packet voyages, the only journals of the voyage I have seen; and they are of the same vessel, the "Africa." One being outward bound, on the 26th October last, and going "south about," reported in the "Illustrated London News" of the 11th of January instant; and the other being homeward bound, coming "north about," arriving at Liverpool on the 12th instant, and reported in the "Freeman's Journal" of the 14th instant.

Both voyages will, I think, be considered very favourable as regards the "Channel" part, and apparently interfered with by none of the difficulties and vexatious sources of delay that so frequently attend the Channel navigation.

The annexed tabular statements, A and B, show the results of the comparison.

These tables show that, by Galway, the saving of time for passengers and mails would be, according to the route taken or voyage:—

		H.	M.		H.	M.
To Liverpool,	from	13	0	to	13	30
Holyhead	„	10	30	„	13	20
London	„	10	30	„	13	20
Edinburgh	„	15	0	„	18	0
Belfast	„	21	30	„	30	30
Dublin	„	18	30	„	33	0
Galway	„	26	30	„	41	0
Cork	„	25	30	„	40	0

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These tables also show that, by Galway, the saving of time for electric despatches would be:—

		H.	M.		H.	M.
To Liverpool,	from	22	30	to	23	0
Holyhead	„	17	30	„	20	20
London	„	17	30	„	28	30
Edinburgh	„	17	30	„	23	0
Belfast	„	28	0	„	37	0
Dublin	„	22	0	„	36	30
Galway	„	23	0	„	37	30
Cork	„	22	30	„	37	0

I have selected these places as centres, of course proportionate results could be deduced for the great manufacturing districts of England, or the over-populated or manufacturing districts of Ireland and Scotland, that hold greatest intercourse with America.

These results require no comment. The importance to Liverpool, and the great manufacturing districts behind it; to London, and the Government centred there, of such savings in time,—not merely as in old times, in a few voyages in the year,—but in voyages in every week of the year, is too manifest to allow the question to remain long undecided in favour of a western port.

In point of fact, in the time occupied in either of these voyages between the 10th degree of longitude and Liverpool, a packet might have passed from that degree into Galway with despatches,—communicated them by electric telegraph to London,—received a reply,—waited for courier or other passengers from London,—and have got back to the 10th degree of west longitude on her return.

But there are other advantages which have been less generally noticed. In both these voyages it is remarkable that the difference in time of starting or arriving from or at Galway and Liverpool, is as nearly as possible 24½ hours; and if Holyhead were to be used as a "port of call" from Liverpool, of course the difference in time would be greater. Perhaps owing to the tides, on many occasions, to six hours longer, or 30 hours on the whole.

Thus then a day, or a day and a quarter's use of the steam packet, consumption of coal (and disadvantage of its tonnage and occupation of stowage room), wear and tear of machinery, rigging, fittings, &c., harassing occupation of officers and crew, general expenses, risk, and insurance of vessel, and property are lost in each voyage out and in. And as these voyages take place weekly for a large portion of the year, and fortnightly for four months, the loss of time and increased expense in the use of such valuable and costly vessels can readily be seen to be very great.

This loss of time and expense is not only great, but worse than unnecessary, as it appears to me the Post Office is thus running an opposition against itself from Liverpool to nearly the 10th degree of west longitude. The railway trains and conveyances to Holyhead, and across Ireland from all points therein, and from Scotland, South Wales, and south-west of England, will and must carry back and forward the American mails, without any increased cost. The mail steamers between Holyhead and Dublin, Scotland and Belfast, Bristol and Waterford, must be continued, and will carry these, as all other mails, without any increased cost; and, in fact, where there is no loss in time (but in this instance an important saving), it is the direct interest of the Post Office,—a clear source of economy and income,—to send through existing channels, that must be maintained and supported for local purposes, to the remotest part of the kingdom, all the mails that can be carried with the existing means; and how much more so, if the mails of foreign countries are, as they must be, sent through this route, and proportionately paid for!

Again, the greater the amount of passenger traffic, and particularly passengers "by mail," along a line of mail communication, the cheaper ultimately must become the carriage of the mails, for the greater will be the competition for its carriage, and the less the reason for exacting high terms for railways. Therefore as regards the mails, there would be a clear saving in time and expense to adopt Galway as the transatlantic packet station.

As regards the electric telegraph, the subject is too large to be discussed here; its importance and success are admitted, and becoming daily more apparent. I would only say, however unpalatable the opinion may be, that I conceive for the protection of private as well as public interests, it should, like the Post Office, be intrusted wholly to the responsibility of the Executive Government, and extended on a general and judiciously formed plan to the important parts of the United Kingdom. The necessity and value of such an arrangement will be seen more evidently as the steam communication with America becomes more perfect and frequent, on the completion of the American and Canadian railways to Nova Scotia.

As regards passenger traffic, I see nothing on the whole but convenience, advantage, and, I expect, economy to be gained by adopting Galway, instead of Holyhead. The steam packet communication between Holyhead and Dublin is very much improved as it is; but will, no doubt, be still more so as regards the power, size, and freedom from liability to sea-sickness of the vessels used, the acceleration of time, and reduction of expense to passengers.

It should be made an imperative condition, that the railways in Dublin should be connected with each other, and the Kingstown line. There is no great difficulty in doing so;

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Miscellaneous Letters, Reports, &c.

and as regards a connexion with the Midland Great Western, the Drogheda and Kingstown, there is, as it appears to me, neither much difficulty nor any very serious expense to be incurred. It should also be made a condition, that the Galway railway be extended to Mutton Island, and to a deep-water jetty outside it, as referred to in my previous memoranda; and with such suitable arrangements as I referred to therein, passengers, their luggage, parcels, and light goods, would be sent with the utmost expedition to and from the American packet; in probably seven, and not exceeding eight hours from Holyhead, at an expense for first-class passengers not exceeding at present rates 30*s.*; but which, I think, the evidence of passenger traffic statistics will, ere long, reduce to 25*s.* or 20*s.*; and for passengers of other classes, at proportionately lower rates.

Under proper arrangements the American passenger should have no trouble or anxiety about his luggage or property, from the moment he steps into his railway-carriage in Edinburgh, London, Liverpool, Belfast, Dublin, or Cork, until he walks on board the packet at Mutton Island; and crossing the Channel from Holyhead to Dublin will, at least to him who is to cross the Atlantic, be little more than a change for a few hours in the mode of travelling.

It may, and no doubt it will, be said in the first instance that Government will not get a commensurate reduction in the transatlantic mail contracts by terminating at Galway. I entertain a better opinion of the wisdom and calculating enterprise of the merchants and shipowners of the country when fairly tested by competition; when the capabilities of the bay and port are really known, and when the requisite works and accommodations for the packets are decided upon and understood. But still greater reliance is placed by many on American competition; and it is stated, that once the railway to Galway is completed, and some suitable arrangements made, the steamers of the United States, with the advantage of our free trade laws, and repeal of the navigation laws, will not fail to avail themselves of the advantage which the gain of 24 hours in each voyage, in each week, in and out, will give them over any vessels going to either Holyhead or Liverpool; and that in like manner, the four or five days spent between Whitehaven, near Cape Canso, and New York, will be saved.

England cannot stand still in this competition; she must take and do her part; and if Galway possesses a decided advantage over Holyhead, the sooner it is boldly admitted, and the decision announced, the better. Not that the packets need necessarily be immediately removed thither, but that Railway Companies, Harbour Commissioners, private enterprise in trade, and factories, owners of landed property, houses, mills, &c., may have a definite object and aim in the expenditure of their capital, and may be led to devote their energies in directions conducive to the greater objects of the State, so that whenever the place shall be required for the purpose, it shall be found prepared so far as these interests can reasonably be expected to operate.

Difficulties may be started in consequence of vague notions as to the expense necessary to be incurred at Galway. If so, they had better be met by a proper examination and estimate. In my previous memoranda, I entered so fully into the question of what would be necessary, and what useful, that it only remains for me to add, that subsequent consideration and inquiry have satisfied me that for a very few thousand pounds, the dock and dock entrance may be made suitable to receive the transatlantic steamers. That the opening a cut into Lough Atalia, and making it available as a tidal basin, is by no means a very expensive business; but that, at all events, there is no present necessity for it, until the confirmed business of the port proves it; and that then it may very legitimately be left to the enterprise either of the Railway Company or local parties.

And that as regards the main object, a mole to Mutton Island, which is properly a public work, I conceive it may, with a small jetty off the island eastward (towards the roadstead) be constructed for a sum not exceeding 30,000*l.*; whilst the more extensive and completed work into five fathoms water would not, including the mole, cost more than about 60,000*l.* or 70,000*l.*, if executed under good arrangements.

Supposing that for all purposes of a purely public or governmental nature, including lighthouse, buildings, &c., a sum of 100,000*l.* were required, it cannot but be deemed moderate, when compared with the advantages obtained, not only for packets and merchant ships, but ships of war; and when the value of even one of these vessels,—the saving in the transatlantic contract,—and the increased revenue of the Post Office, are taken into account, combined with the fact that so small an amount as 30,000*l.* or 40,000*l.* would suffice for the first year—it cannot be assumed that if the principle of adopting a western port be conceded, the measure would be defeated for the consideration of so small an expenditure.

There are few places, perhaps, where natural circumstances so favour the completion of a large, deep, and perfect harbour, at so small a cost, and the double usefulness of the mole for shelter, and trunk for the railway to the packet pier in deep water, serves materially to enhance its value.

The whole matter is popularly, I fear, too often viewed as an Irish or an Anti-Irish question, at the respective sides of the Channel. With your Commission it will receive a very different consideration,—as a practical, an impartial, and a great international question. To these points of view, and professional matters, I have confined myself. I was led by the geographical fact of the respective positions of Galway and Holyhead, to the conviction of the superiority of Galway for a transatlantic packet station, in the same manner that (to take an extreme case) I would be to prefer Hull, or a suitable port on the east of England, instead of Dublin as a packet station to the Baltic.

Whilst however it is, as I hope, clearly shown that there will be great and adequate

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advantages to the whole of England, Wales, and Scotland, in moving the packet station to the west of Ireland, I do not think that any fear of being misunderstood should prevent allusion to the still more important advantages to Great Britain, calculated to arise from such establishments in Ireland;—giving to her freely the advantage of her natural position, and rendering it truly useful to Great Britain,—sending through the Irish railways, those great iron arteries of our altered economic system, a perpetually recurring stream of enterprise, skill, and capital, that must partially become located, and cannot fail to arouse and invigorate trade, whilst it serves more surely, more practically, and quickly, than any theories or legislation ever can do, to cement union, and by physically improving Ireland, to strengthen and benefit the empire.

I have, &c.,

Major-General Sir John F. Burgoyne, K.C.B.,
&c. &c.

WM. T. MULVANY.

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Miscellaneous Letters, Reports, &c.

Table (A).

The "Africa"—Outward Bound, "south about," October, 1850.

Comparative Statement.

Actual occurrences going from Liverpool.		
Date.	H. M.	
Oct. 26	0·20 P.M.	Left Liverpool, full speed, fair weather.
,, 26	6·20 ,,	Holyhead (assumed).
,, 27	2·20 ,,	Passed Cape Clear.
,, 27	3·50 ,,	Gained 10° West Longitude (computed roughly).

Computed occurrences had she sailed from Galway.		
Date.	H. M.	
Oct. 27	0·50	Leave Galway.
,, 27	3·50	Gain 10° West Longitude.

The time therefore occupied to 10° West Longitude was, or may be computed, as the case may be, as follows:—

	For Passengers and Letters.	For Electric Despatches * †
	H. M.	H. M.
From Liverpool	27 30	27 30
,, Holyhead	21 30	21 30
,, London, *viâ* Liverpool	33 30	25 0
,, London, *viâ* Holyhead	29 30	22 0
,, Edinburgh, *viâ* Liverpool	34 0	28 0
,, Edinburgh, *viâ* Holyhead	31 0	22 0
,, Belfast, *viâ* Liverpool (by sea)	40 30	40 30
,, Belfast, *viâ* Holyhead	31 30	31 30
,, Dublin, *viâ* Liverpool (by sea)	40 0	40 0
,, Dublin, *viâ* Liverpool (by rail from Holyhead)	28 30	26 0
,, Dublin, *viâ* Holyhead	25 30	25 30
,, Galway, *viâ* Liverpool (by sea)	44 0	40 30
,, Galway, *viâ* Liverpool (by rail from Holyhead)	32 30	32 30
,, Galway, *viâ* Holyhead	29 30	26 0
,, Cork, *viâ* Liverpool (by sea)	47 0	40 30
,, Cork, *viâ* Liverpool (by rail from Holyhead)	35 30	32 30
,, Cork, *viâ* Holyhead	32 30	26 0

Note.—These times are roughly estimated as the net times occupied, without making any allowances for any stoppages at the several places, except that necessary for change of conveyance.

* Assuming no electric telegraph across channel as no sufficient occasion, unless required, for transatlantic purposes of England.

† Assuming electric telegraph to be laid down from Galway and Cork to Dublin.

The time therefore to be occupied to 10° West Longitude would be as follows:—

	For Passengers and Letters.		For Electric Despatches.*	
	—	Time gained.	—	Time gained.
	H. M.	H. M.	H. M.	H. M.
By Holyhead rail.	14 0	13 30	4 30	23 0
,,	11 0	10 30	4 0	17 30
,,	20 0	13 30	5 0	23 0
,,	19 0	10 30	4 30	17 30
Direct	16 0	18 0	5 0	23 0
Direct	16 0	15 0	4 30	17 30
,,	10 0	30 30	3 30	37 0
,,	10 0	21 30	3 30	28 0
,,	7 0	33 0	3 30	36 30
,,	7 0	21 30	3 30	22 30
,,	7 0	18 30	3 30	22 0
,,	3 0	41 0	3 0	37 30
,,	3 0	29 30	3 0	29 30
,,	3 0	26 30	3 0	23 30
,,	7 0	40 0	3 30	37 0
,,	7 0	25 30	3 30	29 0
,,	7 0	25 30	3 30	22 30

Note.—These times are roughly estimated as those opposite, but the loss in this case would be less, as all would be arranged and in train for outward-bound voyages, and be more independent of delays at sea.

As regards the routes from Galway to Belfast and Edinburgh, and Galway to Cork, it is assumed that the lines of railway from Galway to Armagh, and Galway to Limerick, alluded to in my previous memoranda, are made.

* Assuming electric telegraph would be laid down across channel.

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Table (B).

The "Africa"—Homeward Bound, "north about," January, 1851.

Comparative Statement.

Actual occurrences coming to Liverpool.			Computed occurrences had she come direct to Galway.		
Date.	——		Date.	——	
	H. M.			H. M.	
Jan. 11	8·20 A.M.	Passed 10° West Longitude (computed).	Jan. 11	8·0 A.M.	Would be in 10° West Longitude. Computed at rate of sailing, and allowing for obliquity of course to north.
,, 11	4·20 P.M.	Passed Innis Trahull Island.			
,, 12	4·30 A.M.	Abreast Calf of Man.	,, 11	11·0 ,,	Would arrive in Galway.
,, 12	8·40 ,,	Say, would have made Holyhead.			
,, 12	11·6 ,,	Passed Rock Lighthouse.			
,, 12	11·20 ,,	Say, reached wharf at Liverpool.			

The time therefore occupied from 10° West Longitude was, or may be computed, as the case may be, as follows:—			The time therefore to be occupied from 10° West Longitude would be as follows:—				
	For Passengers and Letters.	For Electric Despatches * †		For Passengers and Letters.		For Electric Despatches.*	
				——	Time gained.	——	Time gained.
	H. M.	H. M.		H. M.	H. M.	H. M.	H. M.
To Liverpool	27 0	27 0	By Holyhead rail.	14 0	13 0	4 30	22 30
,, Holyhead, if she had gone there	24 20	24 20	,,	11 0	13 20	4 0	20 20
,, London vid Liverpool	33 0	33 30	,,	20 0	13 0	5 0	28 30
,, Holyhead	32 20	24 50	,,	19 0	13 20	4 30	20 20
,, Edinburgh vid Liverpool	33 30	34 0	Direct	16 0	17 30	4 7	29 30
,, Holyhead	33 50	24 50		16 0	17 50	4 3	20 20
,, Belfast vid Liverpool (by sea)	40 0	40 0	,,	10 0	30 0	8 30	36 30
,, Holyhead	34 40	34 40		10 0	24 40	3 39	31 10
Dublin vid Liverpool (by sea)	39 30	39 30		7 0	32 30	3 30	36 0
,, ,, (by rail by Holyhead)	34 0	28 50	,,	7 0	27 0	3 30	25 20
,, Holyhead	28 20	28 20		7 0	21 20	3 30	24 50
Galway vid Liverpool (by sea)	43 30	40 0		8 0	40 30	3 0	37 0
,, ,, (by rail by Holyhead)	38 0	32 0	,,	3 0	35 0	8 0	29 0
,, Holyhead	32 20	28 50		3 0	29 20	3 0	25 50
,, Cork vid Liverpool (by sea)	46 30	40 0		7 0	39 30	3 30	36 30
,, ,, (by rail and Holyhead)	41 0	32 0	,,	7 0	34 0	3 30	28 30
,, Holyhead	35 20	28 50		7 0	28 20	3 30	25 20

Note.—These times are roughly estimated as the net times occupied, without making any allowances for any stoppages at the several places, except that necessary for change of conveyance.

* Assuming no electric telegraph across channel as no sufficient occasion, unless required, for transatlantic purposes of England.

† Assuming electric telegraph to be laid down from Galway and Cork to Dublin.

Note.—These times are roughly estimated as those opposite.

As regards the routes from Galway to Belfast and Edinburgh, and Galway to Cork, it is assumed that the lines of railway from Galway to Armagh, and Galway to Limerick, alluded to in my previous memoranda, were made.

* Assuming electric telegraph would be laid down across channel.

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Miscellaneous Letters, Reports, &c.

My Lord, 16, *Pembroke-road, Dublin, January* 4, 1851.

With reference to my reports of the 13th and 19th ultimo, on the subject of a packet station in Ireland, I beg leave to acquaint your Lordship that I had not then any positive data upon which I could calculate the distances from the several ports in Ireland, to Halifax, or other ports likely to be fixed on; but having obtained from that very talented and excellent officer, Lieut. Church, R.N., now in charge of the survey on the southern and western coast of Ireland, the latitudes and longitudes of four of the ports named in your Lordship's circulars, and assuming them, as well as the other places annexed, to be correct, I find that the town of Galway is but 56 miles nearer Halifax than Cork city, after adding 12 miles to the latter, being the distance of the harbour to the city; that the west entrance of Berehaven is but 74 miles nearer than Cork, after adding the aforesaid 12 miles, and that Limerick is only 36 miles nearer, adding 12 miles as before. The apparent advantage, therefore, in favour of Galway and Limerick is so trifling, that I only refer to it for the purpose of showing the absurdity of any argument in favour of those ports, grounded on the saving of time. In summer, and in fine weather, it is very possible that the passage to Limerick or Galway might be made as readily as to Cork, but in winter or in bad weather there would be doubtless a loss of time, unless perchance some commander less cautious than prudent would go on, and by accident succeed in making his port, whilst others less fortunate would find, when too late, that the elements cannot be controlled for the purpose of advancing a dangerous theory or a visionary speculation.

With respect to Berehaven, I can see no saving of time, even supposing it prudent or practicable to establish a station there, because the distance by land to Cork (the direct route) is greater than by water. I presume, however, that as there is no probability of a railway to that port at present, that I need not follow up the subject.

I have, &c.,
R. Hagan,
Captain R.N.

The Lord Hobart,
&c. &c.

	Latitude.			Longitude.		
	°	′	″	°	′	″
Galway, Mutton Island	53	15	12	9	3	30
Limerick Bridge	52	39	36	8	39	0
Berehaven, west entrance	51	37	12	9	54	30
Cork Lighthouse	51	47	33	8	15	14
Halifax, Lambro Lighthouse	44	26	18	63	33	0

Distance from Lambro Light, Halifax.

	Nautical Miles.
To Galway (mercator sailing)	2,208
West entrance, Berehaven	2,190
Limerick Bridge	2,228
Cork Lighthouse 2252, add 12 miles to city	2,264

R. Hagan.

My Lord, 16, *Pembroke Road, Dublin, January* 9, 1851.

I have seen, in the public papers, replies to your Lordship's queries, signed "James Richards," and as many of these are at variance with the facts, I trust your Lordship will permit me to trespass on your time by refuting them.

In answer to the fourth query, he acquaints the Commissioners "that the entrance to Cork harbour is narrow, difficult to make out, and dangerous." This, my Lord, is a most outrageous libel on a harbour which is well known to be wide at the entrance, most easily made out when coming from the westward or southward, and perfectly safe for vessels to enter at all times. There has been a recent survey of it, to which I beg to draw the notice of the Commissioners. He goes on to say—"that owing to the number of vessels constantly moored off Queenstown (that is, four miles from the harbour's mouth), that it is hazardous to work a ship in, especially at night." There is, certainly, more or less danger of getting foul of other vessels if a ship has to beat up amongst them, but I believe there is no intention to substitute sailing-vessels for steamers in the mail service, and therefore this objection falls to the ground. He adds—"that he has often *declined* running out with a leading wind." This may have been a matter of convenience to him, but certainly not of necessity; for a week never passes without vessels, square-rigged, either running or even working out at night. He goes on to state—"that when a ship is moored *inside* (that is, off the town), it is an excellent and safe harbour;" leaving the Commissioners to infer that the outer harbour is not a safe one. This is too bad. I ought to know Cork harbour better than this gentleman, who says—"he visited it 24 times," and I take upon myself, under my professional responsibility, to assert that every part of Cork harbour inside the Turbot bank is perfectly safe. He concludes his abuse of Cork by stating—"that sailing-vessels cannot beat out with a stiff southerly wind." I do not mean to say that it may not blow so hard as to cause a ship to miss stays, and that some danger would not arise therefrom; this will apply more or less to all harbours, but it is irrelevant to the point at issue; for, I presume *steamers* will have no occasion to *beat out*.

In speaking of Galway Bay he calculates always, I observe, on clear weather; and he extols the high light, which is known to be useless in thick weather; and he asserts that fogs

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which prevail elsewhere are not to be found here. The Commissioners will, I am sure, require better evidence than this prejudiced gentleman's on this point.

He replies to the fifth query, and acquaints the Commissioners—"that he has several times sailed out of Cork, Crookhaven, Berehaven, Valentia, Tarbert, and Galway;" but he does not explain how it became convenient to sail out of Cork on these occasions, when, on others, he *declined*. It would have been more candid to have admitted the fact at once, namely, that a steamer may leave Cork harbour at any hour, day or night; and that a southerly gale could alone detain a sailing-vessel. His replies to the sixth query are not less disingenuous, for he again calculates on clear weather, seeing high land, and finding excellent harbours without trouble; and attempts to support his reasons by informing the Commissioners—"that wrecks are more numerous on the east coast than on the west." As well, my Lord, might he compare the commerce of the unrivalled Thames with that of the Swan River, as to draw such a comparison; for more vessels are to be seen navigating the eastern coast of Ireland in *one day* than will be found on the west coast in a *whole year*, hence the casualties are more; besides, there is a description of coaster on the east coast not to be found on the west. The allusion is evidently meant for Cork harbour, though it is not on the east coast, and therefore does not apply to it. In reply to the seventh query, he deliberately states—"that he would run for Galway, in the winter season, in preference to Cork," though he just before admitted that a coast exposed to westerly gales must be more or less dangerous; forgetting, I presume, that the coast of Cork is not a lee-shore to these winds; forgetting, too, that he had just before been writing as if it was on the east coast. His reasons for preferring Galway to Cork, as given in his reply to the eighth query, all apply with much more reason to the "Fastnet Rock," "Cape Clear," "The Old Head of Kinsale," and "Cork Harbour Light," except "the *large inlet*," which, by-the-bye, is a novel recommendation, it being, in my judgment, a serious objection. In reply to the eleventh query, he says—"he would not run for Galway, the Shannon, Valentia, Bantry Bay, or Long Island, fearlessly but cautiously, by sounding, and a good look-out, and he would go slow." All this would delay his arrival; and, if he missed the lights, the breakers would scarcely tell him, any more than the soundings, whether he was north or south, east or west, of his destined port; so that he must stand off shore, exposed, perhaps, to the fury of a December south-wester. He is then asked if he would run for Cork, and he answers—"that he would *endeavour* to make Cape Clear, and run for Cork;" but then Galway, which is always uppermost in his thoughts, but about which he is not now asked, is brought in; and mark, my Lord, the difference:—"he would *endeavour* to make Cape Clear, if bound to Cork, but *would* make the Arran Islands if bound to Galway."

In reply to the thirteenth query, he introduces a great deal of matter foreign to the subject, which I shall not notice; but he concludes by stating—"that a disabled ship has a better chance of saving herself, her crew, and her cargo, by running for a port on a dead lee-shore, than by running for one not so circumstanced;" and this, be it remembered, without any qualification whatever. If the Commissioners, to whom I have the honour to submit these criticisms, were all nautical men, I would not presume to offer a single word upon so untenable an argument, its own absurdity being, to such, its best refutation; but as the Commission is not so composed, I have only to apologize to the distinguished officer for pointing out the dangers of a lee-shore under such circumstances.

I will put the case of a ship in Galway Bay; the weather so thick that the land could not be approached, and not room for a long winter's night drift; and of another, east of Cape Clear, with the same weather and wind at sea, or west; in the first case there probably would not be a man left to tell the tale; in the other, the ship, before daylight, would wear round, make the land, and run into Cork with safety. Cork harbour is said by him to be narrow. Can a harbour be properly said to be narrow, *into* which ships of the line work, and *out* of which frigates and merchant ships of 1000 tons work constantly? Can such a harbour be unsafe for a steamer, disabled though she may be? I assert, emphatically, *No*.

In answering the fourteenth and last query, this gentleman is not satisfied with declaring "Galway to be the best port *without any manner of doubt*;" but adds the rather new assertion—"that it is also the *nearest*,"—meaning, of course, nearest to Halifax. If I had not already refuted all this gentleman's reasonings, particularly those respecting Cork, I would have put the question to the Commissioners, whether a man who could be so blind or so prejudiced as to assert that Galway was the nearest port, would be any authority for the clear weather and absence of fogs on the Galway coast, or for *any assertion* he has made.

I have, &c.,

R. HAGAN, *Capt. R.N.*

The Lord Hobart,
&c. &c.

STEAM COMMUNICATION—IRELAND—AMERICA.

We (*D. E. Post*) have received from Mr. Wm. M'Cay, solicitor to the promoters of the European and American Steam Packet Company, now in course of formation, the answers of Captain Richards to the fourteen queries submitted by the Transatlantic Packet Station Commissioners—Board of Trade—under date 30th of November, 1850, and which, with the queries, we have much pleasure in laying before our readers, from the great importance of the subject to the future interests of this country. Captain Richards is the gentleman who, with Mr. Bermingham and a deputation, had an interview with the Lord Lieutenant at the Viceregal Lodge a few days since in reference to this subject, in which his Excellency takes a deep interest.

1st. Query.—How long were you on the coast of Ireland?

Answer.—I have visited the coast of Ireland constantly for the last 26 years, and have gained an accurate knowledge of every part of the Irish coast, and more especially of the western coast of Ireland, from long experience.

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Miscellaneous Letters, Reports, &c.

2nd Query.—How many winters on the south-west or west coast?

Answer.—I have navigated vessels under my own command on the south-west and west coast every winter for the last 20 years.

3rd Query.—State how often you have been into the ports or harbours of Cork, Long Island, Crookhaven, Berehaven, Valentia, Tarbert, Galway, Dunmanus Bay.

Answer.—Cork, about twenty-four times; Long Island, twice; Crookhaven, about eight times; Berehaven, about six times; Valentia and Tarbert, seven or eight times; Galway, six times, and often in the bay; Dunmanus Bay, twice.

4th Query.—State your opinion of these ports, founded upon your own observations and experience.

Answer.—In clear weather the port of Cork is easy of access; but in thick weather, and in the winter season, when running for the entrance, which is narrow, I have often found it difficult to make out, and dangerous. Owing to the number of vessels constantly moored off Queenstown, it is hazardous to work a ship in, especially at night; and I have often declined running out with a leading wind at night. When moored inside, it is an excellent and safe harbour, with good holding ground; sailing vessels cannot beat out with stiff southerly winds, owing to the heavy cross seas at the entrance, increased by an ebb tide.

Long Island has a narrow passage, and is not commendable to run for in gales of wind, the island being low, and difficult to discern in thick weather.

Crookhaven is a good harbour for small vessels of 14 feet water, when well in, but is very narrow.

Berehaven is a large spacious harbour, good depth of water, from seven to twelve fathoms, the west entrance narrow, could only be entered in the day; but the east side, having a light, is of very easy access, with E.S.E. gales; ships ride very heavy—little shelter.

Valentia is a good harbour when in, but is very narrow at the entrance, and will be very difficult to make out, except by those well acquainted with the coast; good holding ground inside; from four to six fathoms water.

Tarbert.—To bring large ships up, they would be much in the way of navigation, and exposed to strong tides, and little shelter with N.N.W. gales. Beelhar is dangerous, and there are shoals off Scattery, with many rocks in the Shannon. The holding ground is not of the best kind.

Dunmonus Bay is not much resorted to, is narrow, has sunken rocks—not commendable at night.

Galway is a fine bay, sufficient water for the largest ships, is of easy access, and a good outlet. The Arran Islands break off the Western Sea, and there is good shelter for ships to bring up inside of the Great Island, with westerly wind in summer time. The land is high and bold, has an excellent light, which being very high, is easily discerned coming from the westward, and is a noble land-fall for ships running up the bay to Galway. Gregory Sound is a safe passage. If to the north the Slyne Head lights at night, and the lighthouses by day, are good marks for the north passage, which is wide.

There are good harbours inside of Slyne Head, on the north shore.

On the South side, off the Arran Islands, is the largest and best passage, free of dangers. The Clare mountains and land are high, and therefore easily made out, more especially as I have found the bay is not visited with thick fogs, such as I have found prevailing on the south coast. Blackhead is a fine bold landmark, and has good shelter, with S.W. winds.

There is a good light on Mutton Island, close to the harbour of Galway.

5th Query.—Did you ever enter or sail from any of the above ports in the night, and if so, state how often, and under what circumstances?

Answer.—I have entered and sailed out of those ports several times at night—say Cork, Crookhaven, Berehaven, Valentia, Tarbert, and Galway—having discharged and loaded cargoes at Galway, Cork, and Limerick; the other ports I have put into as harbours of refuge, and left, when the wind proved favourable, frequently at night.

6th Query.—Do you consider the navigation of the west coast very dangerous or hazardous in the winter season, and if so, state your reasons?

Answer.—I consider that the navigation of any coast exposed to westerly gales must be, to some extent, hazardous in the winter season; but, from my experience of other shores exposed to the westward, I do not think the navigation of the west coast of Ireland, if well known, so dangerous as other coasts equally exposed. The west coast has a great number of most excellent harbours, capable of admitting ships of any size, and bold high land, and no banks or sands to encounter. I have noticed that the wrecks are few as compared with those on the east coast.

7th Query.—In making a voyage from America, in a steam-vessel drawing nineteen and a half feet of water, which of those ports would you prefer running for in the winter season?

Answer.—I would prefer running for Galway in the winter season to any of the other ports.

8th Query.—State your reasons for giving the preference to the port above mentioned?

Answer.—The reasons why I would prefer Galway are, that it is a very large inlet, and the best land-fall, with excellent lights, easily discerned, with a large safe bay, and a good roadstead for ships of any size.

9th Query.—What headland would you make for in the day?

Answer.—The high land of Arran Island in the day.

10th Query.—What light at night.

Answer.—Arran Island lights at night; it is in the centre of the bay.

11th Query.—Would you fearlessly, in a dark or hazy night, in the depth of winter, in a steam-ship drawing nineteen and a half feet of water, in all weathers, run for Galway, the Shannon, Valentia, Bantry Bay, or Long Island.

Answer.—I would not make any of these ports in a dark or hazy night in the depth of winter, fearlessly, but most cautiously, by sounding and a good look-out, going easy if thick weather, and my distance nearly up; where the land is high, and deep water close-to, it would be encouragement to make bold.

12th Query.—Would you run for Cork?

Answer.—I would endeavour to make Cape Clear, and run for Cork, if bound there; if for Galway, I would make the Arran Islands, and run boldly up the bay.

13th Query.—If a steam-vessel's machinery was out of order, damaged, or defective, would it be prudent in bad weather to run for either of these ports?

Answer.—In the "Thames" steamer, from Dublin, bound to London, in or about the year 1830, when off the Land's End, the piston-rod broke, from which cause the top of cylinder and piston also broke; we immediately disconnected the engine, and made sail in a stiff gale from the westward in wearing

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ship, cleared the Brizen rocks off Cape Cornwall, about a cable's length, and ran up Bristol Channel, and before dark got into Padstow, a very narrow harbour, and dangerous for a ship of her size, 513 tons register. The "Thames" was built in London, and cost 30,000*l.*, and had then on board a cargo value 70,000*l.* Now had such an occurrence happened off Galway, with the prevailing westerly winds, the entrance to the bay being very wide and most easy of access, a steamer, with disabled machinery, could run boldly for that bay under sail, and afford, under such circumstances, a better prospect of saving ship, lives, and cargo than any other of the ports before mentioned, all of them but Galway being narrow, and none of them so open to the westward.

14th Query.—Under such circumstances, in making a run from America, for what port would you steer?

Answer.—For Galway, as being the nearest and safest, and without any manner of doubt; and under any circumstances I would prefer for safety to steer for Arran Islands, in the centre of Galway Bay.

It has been asked if it would not be convenient to have a "call in port" from America to Liverpool at some port in Ireland. This, I conceive, would be encountering a double risk, putting into two ports with detention and expense, causing much greater anxiety to the captain, and dissatisfaction to the passengers. The delay could scarcely be less than twenty-four hours, and the greatest horror of a commander is in approaching the land until it is absolutely necessary to do so.

December 24, 1850. JAMES RICHARDS.

MY LORD, *Castlemaine, January* 12, 1851.

RECENTLY I assumed the liberty of directing the attention of your Lordship to the most eligible situation for the arrival and departure of the British and American mail packets. I will now make a few brief observations in connexion with this very important subject.

At the time I laid out the proposed line of railway betwixt Wexford and Valentia, the late Mr. Daniel O'Connell told me that he had five instances recorded in his diary of loaded vessels coming to anchor in Dingle Bay on the fifth day after leaving America. He was much interested in the said line, and did all in his power to promote it. He requested the captains of the American steam-packets to make a series of observations, on their homeward voyage, of the time they came to the entrance of Dingle Bay. The result of these observations was, that the mail packets came to the entrance of Dingle Bay ten times out of thirteen on the seventh day after leaving America.

Galway is 130 miles farther from America than Dingle Bay. The Lord-Lieutenant is opposed to it by the advice of the Commissioners of Public Works. In his letter on the subject, he says—"All the spare money in Britain would not make a breakwater at Mutton Island."

The south of Cork has no claims to a packet station on the grounds of eligibility or public accommodation. Besides, it would add 200 miles of additional railway travelling.

The most advantageous situation for the arrival and departure of the American mail packets is at Cromane, where the united rivers Maine and Laune discharge into Dingle Bay. Your Lordship may see this place distinctly laid down, on plans deposited in the Admiralty, and prepared by me for the ensuing session of Parliament. The line laid down on the plan I sent to your Lordship is the most direct, and the best that can be devised, for the accommodation of British and American intercourse. This line would open up the most important and valuable portion of Ireland. From Clonmel to Cromane would develop the resources of not less than 3750 square miles of excellent land, which is lying almost in a state of nature. This line would accommodate the numerous tourists who visit Killarney; and it would open up, probably, the most extensive mineral deposit in Europe. It would supply abundance of the finest steam coal for the American packets, locomotive engines, and other purposes. It would give a great stimulus to improvements in agriculture, by the conveyance of coal and limestone throughout this extensive district, where there are no such facilities at present. As this coal is strong and more durable than the English steam coal, consequently a less quantity would be sufficient for the voyage. Thus a much smaller class of vessels and restricted to the conveyance of the mail and passenger traffic; as dead weight or cargo does not require the same despatch, and it can be carried cheaper in merchant vessels than by mail packets. A great improvement could be made on the common paddle-wheel, which would add much to the power and spirit of the vessel, and would present much less resistance during head winds and stormy weather. By these means the fares might be reduced, and the traffic vastly increased.

Having repeatedly surveyed the line betwixt Wexford on the east, and Cromane on the west, I am aware of the advantages which would result to England, Ireland, and America, were your Lordship's Committee to decide on Wexford and Cromane for the British and American intercourse. I would then undertake, in conjunction with some gentlemen in Glasgow and London, to complete the said line in the most substantial manner. There would be three special improvements which have never yet been adopted, and the fares would be 1*d.* per mile for first class passengers, ½*d.* for second class, and ¼*d.* for third class. There would be no difficulty in obtaining the money, because it would be guaranteed, even exclusive of the traffic arising from the working of the line.

This is a subject of national importance, and it deserves the support of every person who feels an interest in the future prosperity of Ireland, because no other circumstance is so well adapted to give a stimulus to the frozen energies of a large proportion of the inhabitants throughout the south and west of Ireland, as a judiciously designed and prudently conducted line of railway to open up and accommodate the direct intercourse betwixt Great Britain and America.

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Miscellaneous Letters, Reports, &c.

The map which I sent to your Lordship, a few days ago, will show the two best situations on the south west of Ireland for packet intercourse with America.

Should any further information be required, I will be happy to state all the information that six years' knowledge of the line and of the resources of the country have given me in said time.

There would be one useful and profitable department of traffic which would be conducted by this line, and it could not be conducted with advantage by any other line or means. That extensive and profitable source of traffic would consist in supplying the mining population of South Wales, daily, with the produce of the Irish fisheries—a luxury which they seldom or never obtain, and for which there would be a constant demand. This line would give a great stimulus to the neglected fisheries on the west coast, creating a profitable source of industry on the one hand, and supplying a nutritious pabulum of life among the mining population on the other. This one consideration deserves special consideration, inquiry, and support, and I am satisfied that full justice will be done to it by your Lordship's Committee.

I have, &c.,

The Earl Granville.

ROBERT M'CALL.

MY LORD, *Hollybrook, Skibbereen, January* 18, 1851.

THE question of a transatlantic packet station being now a subject of general interest, and one of national as well as foreign importance, I trust I shall be pardoned in addressing you in your official capacity as chairman of the Commission instituted for the purpose of investigating the merits of the several proposed harbours for that object, on the western and south-western coast of Ireland.

Those which as yet seem to have had public attention more particularly directed to them are Galway, the Shannon, Valentia, Berehaven, and Cork.

Crookhaven, with Long Island channel in connexion with it, has been also named in a passing way, but I apprehend that, owing to a total want of patronage, its paramount merits have not been fully, if at all, brought under the consideration of your Honourable Board.

Though I have used the terms "paramount merits," I do not by any means desire or intend to detract from the pretensions of the rival harbours, or argue their relative merits; but merely content myself, for the present, with asking your Honourable Board, through you, to place Crookhaven on your list for a critical examination into the particulars and requisites indispensable to constitute a packet station: and if found to be, owing to its natural capabilities, its favourable locality, its contiguity to Cape Clear (being nearest land to the American continent), its admirable anchorage, and its other qualifications, as suitable for this great and important purpose as its acknowledged advantages as a port of call (though not recorded as such), and its superiority as a harbour of refuge to the mercantile and other shipping, from time immemorial admitted, I may flatter myself that Government (which now seems decided in establishing a transatlantic packet station in Ireland) and your Honourable Board will have no reason to regret that my request will have been adopted.

I might here remark, if permitted to offer an opinion, my conviction is, that if Crookhaven was selected as a packet station, though so far to the westward, that the mails would be much sooner delivered in England than they could be from any other port before mentioned.

If the view I suggest of this matter be taken into consideration, and the Board should so wish, I shall (D.V.), with much pleasure, assisted by two gentlemen well acquainted with Crookhaven—one the district agent for Lloyd's and agent for the Droits of the Admiralty, the other who has been an officer in the coast guard service, and in charge of that harbour for 17 or 18 years—endeavour to give as full and detailed information as possible to any queries which may be forwarded to me by your Honourable Board.

I have, &c.,

The Earl Granville,
&c. &c.

R. H. H. BECHER.

To the Commissioners appointed to inquire into the subject of a Transatlantic Packet Station.

THE Directors of the South Western Railway Company request permission respectfully to submit the following observations in reference to the matters under the consideration of the Commissioners:—

The South Western Railway commences near the centre of London (Waterloo Bridge), and has a wharf (Nine Elms) for goods on the river Thames. It terminates close to the docks at Southampton. The rails are continued from that terminus into the dock premises, and along the quays, so that passengers and goods may at once be embarked and disembarked into and from the railway carriages and waggons. A Bill will be brought into Parliament during the ensuing session for connecting the South Western with the North Western Railway, by means of a short line of less than four miles. This important link will complete the chain of railway communication on the national gauge between the Northern and Southern, as well as between the North Eastern and South Eastern parts of Great Britain. The completion of this connexion will give great facilities for all postal arrangements, and it will materially expedite and considerably reduce the cost of the transport of passengers and goods. Southampton is the nearest available port to the

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metropolis as a mail-packet station, being distant from its centre only 80 miles by railway. Docks have recently been constructed at Southampton at a cost of about 500,000*l.* capable of receiving the largest steam or sailing vessels. The depth of water at the lowest time of tide is about 18 feet in the tidal basin; so that vessels drawing less than 18 feet can at all times of tide arrive at, and depart from, the docks. In the river, at a short distance from the entrance of the docks, there is a depth of water at the extreme of low tide of 24 feet, and the depth increases all the way to the entrance of the river, where it is sufficient to allow of the passage of the largest vessels at all times of tide. The average depth in the tidal basin and in its channel of approach at high water is 28 feet; whilst in the river, where the largest men-of-war can always lie afloat, there is a depth at high water of from 36 to 66 feet, with ample choice of safe anchorage. The channel of the river is, on an average, three quarters of a mile in breadth at low water. It has neither rock nor shoal, is nearly straight, lying south-east and north-west, so that the prevailing wind, which is south-west, is fair both for ascending and descending the river.

There is a peculiarity in the tides of the Southampton harbour particularly favourable for all purposes connected with docking. This consists in the high water continuing for nearly three hours, whereas in all other tidal harbours in Great Britain and Ireland it may be said not to continue longer than about a quarter of an hour. This remarkable phenomenon, it is believed, is peculiar to the port of Southampton, and is unknown in any other tidal harbour in the British dominions. Its importance is manifest in all business connected with dock purposes, and it is here alluded to in order that its advantages may not be overlooked.

The present tidal basin contains an area of 16 acres. Another dock is in progress of 11 acres, with a constant depth of 26 feet, and ample powers are possessed for extending the dock accommodation as the increase of trade may demand. Two repairing docks are completed, one of which is capable of receiving the largest steam-vessel now navigating the ocean.

The advantages of the port of Southampton thus briefly set forth; its freedom from all dangers, its great depth of water enabling vessels to arrive and depart at all times of tide; its proximity to the metropolis of the kingdom and the seat of Government; its perfect railway communication with the English Channel at one extremity and the Thames at the other, reducing the time of transit of passengers and letters from the coast to London to only two hours in case of need; its electric telegraph connecting it with London and the rest of the kingdom, as well as with Portsmouth; its situation in the centre of the south coast of England, at a point so central that, if a perpendicular line is raised from it, it will intersect the heart of England, all seem to point it out as the most eligible port for establishing the general mail packet station of the kingdom. When its advantages and facilities are contrasted with the difficulties, dangers, and delays for tides which attend the navigation of all other tidal rivers in the kingdom, the comparison cannot fail to be greatly in favour of Southampton.

The port of Southampton might be regarded as the port of the whole north and west of Europe, because, even at present, passengers from France, Germany, Holland, Spain, and Denmark use that port for their passage to and from the West Indies, North America, Central America, California, the Brazils, the east and west coast of South America; and the numbers would be greatly increased were Southampton definitively fixed as the general packet port of the kingdom.

But if the packets should cease to run from Southampton, and were removed elsewhere, there can be little doubt that all the foreign passengers and traffic would be transferred to some foreign port, probably to Havre or Cherbourg, which are well situated for such an entrepôt, thus depriving England of the benefit of such a traffic, and conferring those advantages on France.

It is earnestly to be hoped that no local influence may have the effect of producing such disastrous results.

The South Western Railway Directors are at present engaged in effecting arrangements with the Directors of the railways leading to the manufacturing districts for a large reduction in the price of carriage, as compared with the existing rates, so that large masses of merchandise will be transported on such terms as cannot fail to augment the importance of Southampton as a commercial port, and thereby give a further impulse to its becoming the steam-packet port of England.

Signed by order of the Court of Directors,

General Offices, York-road,
January 27, 1851.

WYNDHAM HARDING,
Secretary.

MY LORD, *Chamber of Commerce, Limerick, February* 5, 1851.

As the Packet Station Commissioners have been good enough to invite the fullest information, in reference to the important inquiry in which they are engaged, I am requested by the Limerick Committee to transmit to your Lordship the accompanying communication, received from Mr. Long, C.E., of this city, with a statistical table, illustrating the capabilities of the ports of Limerick and Galway, with their existing trade and available resources.

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Miscellaneous Letters, Reports, &c.

This communication appears to afford information of so useful a nature, that the Committee trust they will not be deemed intrusive in forwarding it to the Commissioners for consideration.

I have, &c.,

THADEUS M'DONNELL,
Mayor.

The Lord Hobart, Secretary,
Packet Station Commissioners, London.

SIR, *Limerick, February 5, 1851.*

HAVING given some consideration to the subject of a transatlantic packet station, now attracting so much public attention, it appears to me, that in order to take full advantage of the geographical position of Ireland, and to meet the requirements the public look for, a western port must be selected. Of the various western ports claiming consideration in the matter, there appears to be but little doubt, after all the circumstances are fully considered in all their bearings, that the question will ultimately be confined to the Shannon and Galway for selection; and having some knowledge of both these ports, I have drawn up a comparative statement of the statistical facts relating to the two localities, which, in connexion with the general capabilities of the Shannon, as already brought under the notice of the Commissioners, appears to present such conclusive results, that I am induced to present a copy to the Limerick Committee.

It will be seen by this statement, taken from the official statistics of Ireland, that, in point of tides, landing piers, depth of water, number of roadsteads, quayage, &c., Limerick presents a decided superiority over Galway; that Limerick has a much greater extension of railway accommodation, and is connected by an uninterrupted net-work of inland navigation of 815 miles in length with almost every county in Ireland, and with nearly the whole of its population, whilst the inland navigation of Galway is altogether insulated, and connects with only two counties; that the number of steamers plying on the Shannon is 13, whilst there are none whatever connected with Galway; that the tonnage of shipping, amount of customs, tobacco and coals imported, amount of postage, &c., is about five to one greater at Limerick than at Galway; that the annual value of the land in the counties along the Shannon is 3,320,610*l.*, and value of live stock 7,386,660*l.*, whilst that along the Galway lakes is, from the mountainous character of the district, only 736,883*l.*, and value of live-stock, 2,021,197*l.*, and that the water-power of the Shannon, as estimated by Sir Robert Kane, is 38,667 horse-power, whilst the Galway lakes is only 6,850.

These facts at once place beyond all doubt the nautical and industrial superiority of this great river, which, it may be fairly said, is unequalled in the United Kingdom, and therefore presents imperial claims which cannot well be overlooked, as well as capabilities and advantages for this object, which appear to remove all doubt as to the port which should be selected.

I have, &c.,

The Right Worshipful the Mayor of Limerick. JOHN LONG, C.E.

COMPARATIVE STATEMENT of the RELATIVE CAPABILITIES of the SHANNON and GALWAY:—

West Longitude.

The Shannon—	°	′	Galway—	°	′
Mouth of the Shannon	9	57	South Entrance at Arran Island	9	28
Tarbert	9	24	Galway	9	03
Foynes	9	10			
Limerick	8	39			

Depth of Water.

Limerick Dock—	Ft.	Galway Dock—	Ft.
Neaps	18	Neaps	11
Springs	23	Springs	14
River way at dock	28	River way at dock	16

NOTE.—The Atlantic steamers require 19½ feet depth of water.

Rise of Tides.

Limerick—	Ft.	in.	Galway—	Ft.	in.
Neaps	14	6	Neaps	10	0
Springs	19	0	Springs	13	0

Harbour Roadsteads.

Carrigaholt	1	Galway	1
Scattery	1		
Tarbert	1		
Labasheeda	1		
Foynes	1		
Beigh Castle	1		
Grass Island	1		
Limerick	1		
Total	8	Total	1

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Quays and Landing Piers in Tideway.

Limerick	1	Galway	1
Askeaton	1	Barna	1
Clare	1	Kinvarra	1
Foynes	1		
Kildysart	1		
Kilteery	1		
Tarbert	1		
Ballylongford	1		
Kilrush	1		
Querin	1		
Total	10	Total	3

Number and Tonnage of Vessels registered in the Port, 1849.

	No.	Tonnage.		No.	Tonnage.
Limerick	105	13,834	Galway	22	4,265

Account of Customs in 1850.

Limerick	£186,044	Galway	£31,435

Number and Tonnage of Vessels entered and cleared out in 1849.

Limerick—

	No.	Tonnage.
Coastways	832	88,334
Colonies	109	29,949
Foreign	498	97,283
Total	1,439	215,566

Galway—

	No.	Tonnage.
Coastways	122	12,423
Colonies	21	5,546
Foreign	147	28,579
Total	290	46,548

Duty paid for Tobacco entered for Consumption in 1849.

Limerick	£107,038	Galway	£11,455

Coals Imported.

	Tons.		Tons.
Limerick	27,816	Galway	6,676

Emigration direct from the Ports, 1849.

Limerick	11,554	Galway	3,933

Postage, 1848, 1849, 1850.

Limerick	£12,938	Galway	£3,274

Amount of Railway Accommodation.

	Miles.		Miles.
Limerick to Dublin	129	Galway to Dublin	128
,, Cork	54		
,, Waterford	63		
Total	246	Total	128

Steamers plying to the Port or on the Navigation.

Shannon—

Erin-go-bragh	1
Garryowen	1
Dover Castle	1
Burgoyne	1
Lansdowne	1
Clanricarde	1
Dunally	1
Wellesley	1
Avonmore	1
Shannon (screw)	1
Gazelle	1
Wye	1
Cupid	1
Total	13

Galway—

Nil.

Length of Navigation.

	Miles.		Miles.
The Shannon	210	Loughs Corrib and Mask	40

Connexion with other Navigations.

	Miles.		
Grand Canal	99	Galway	
,, to Kilbeggan	8		
Royal Canal	92		
,, to Longford	7		
Carried forward	206	Carried forward	40

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Connexion with other Navigations—continued.

	Miles.		Miles.
Brought forward— . .	206	Brought forward— . .	40
Junction Canal and Navigation	49		
Lough Erne	46		
Ulster Canal	48		
Lough Neagh and Lower Bann	60		
Lagan Navigation . . .	28		
Newry Canal and Navigation	50		
River Fergus	10		
Boyle Waters	8		
Carnadoe Waters . . .	7		
Askeaton River	5		
Hind River	8		
Barrow Navigation . . .	80		
	605		
The Shannon	210		
Total . .	815	Total . .	40

Number and Population of adjoining Counties.

The Shannon—	Population.	Loughs Corrib and Mask—	Population.
11 Counties . . .	2,444,691	2 Counties	617,612

Number and Population of other Counties in connexion by means of other Navigations.

18 Counties . . .	4,465,898	Nil.	
29 Counties . . .	6,910,589	2 Counties	617,612

Water Power, according to Sir Robert Kane.

	Horse-Power.		Horse-Power.
The Shannon, exclusive of its tributaries. . .	38,667	Loughs Corrib and Mask .	6,850

Towns, in immediate connexion with Navigation, having a Population exceeding 1,000.

1. Limerick . . .	66,554	1. Galway	33,120
2. Kilrush . . .	3,996	2. Ballinrobe . . .	2,604
3. Tarbert . . .	1,100		
4. Askeaton . . .	1,515		
5. Ennis . . .	7,711		
6. Killaloe . . .	1,411		
7. Nenagh . . .	8,466		
8. Scariff . . .	1,100		
9. Portumna . . .	1,122		
10. Banagher . . .	2,636		
11. Ballinasloe . . .	4,615		
12. Athlone . . .	11,408		
13. Roscommon . .	3,306		
14. Carrick-on-Shannon. .	1,870		
15. Boyle . . .	3,433		
16. Killeshandra . .	1,137		
17. Belturbet . . .	2,026		
18. Enniskillen . . .	6,116		
19. Ballyshannon . .	3,770		
20. Clones . . .	2,881		
21. Monaghan . . .	3,843		
22. Caledon . . .	1,071		
23. Antrim . . .	2,655		
24. Portglenone . .	1,591		
25. Kilrea . . .	1,215		
26. Coleraine . . .	5,752		
27. Ballymoney . .	2,222		
28. Belfast . . .	53,287		
29. Lurgan . . .	2,842		
30. Portadown . . .	1,591		
31. Newry . . .	13,065		
32. Warren Point . .	1,856		
33 Longford . . .	4,516		
34. Ballymahon . .	1,080		
35. Mullingar . . .	4,295		
36. Kilcock . . .	1,730		
37. Maynooth . . .	2,053		
38 Celbridge . . .	1,647		
39. Lucan . . .	1,229		
40. Dublin . . .	204,155		
41. Philipstown . .	1,454		
Carried forward . .	449,422	Carried forward .	35,724

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Towns in immediate connexion with Navigation—continued.

	Brought forward .	449,422	Brought forward .	35,724
42.	Edenderry . .	1,283		
43.	Kilbeggan . .	1,985		
44.	Tullamore . .	6,342		
45.	Monastereven . .	1,441		
46.	Athy . . .	4,494		
47.	Carlow . . .	9,114		
48.	New Ross . .	5,011		
49.	Waterford . .	28,821		
	Total .	507,913	Total .	35,724

Relative Value of Land in adjoining Counties.

Limerick . . .	£3,320,610	Galway	£736,833

Value of Live Stock in adjoining Counties.

Limerick . . .	£7,386,660	Galway . . .	£2,021,197

My Lord,

30, *Eaton Square, London, February* 6, 1851.

Having learnt by your Lordship's letter of 22nd November, that the Transatlantic Packet Station Commissioners would receive any observations or remarks that I might desire to make, in reference to the queries which they circulated, I beg leave respectfully to submit to their consideration the contents of the printed memorandum, signed by me, which I enclose herein.

Your Lordship will perceive that the view of the subject which I take precludes the possibility of my offering direct replies to the separate queries of the Commissioners.

My remarks should have been offered to the Commissioners sooner, were it not that I was desirous that the data in my possession in regard to the shipbuilding and engineering branch of the subject should be definite, reliable, and accurate; and as the production of this has involved much thought and laborious calculations on the part of Mr. Lang and Mr. Penn, and many consultations, delay has been unavoidable.

Possibly the Commissioners may not consider this as falling within the scope of the inquiries which they had prescribed to themselves; but certain it is that if this cardinal branch be ignored, no sound conclusion on the general subject can be arrived at.

I beg to acquaint the Commissioners that the correctness of the ideas of Mr. Oliver W. Lang, as to the principles on which a transatlantic packet ought to be constructed, will be corroborated by Mr. Lang, senior, of H.M. Yard, Woolwich, whose reputation and experience is too notorious to bear any eulogium from me. The Commissioners, if they do not already know the skill of Mr. Penn, in his department, can have no difficulty in satisfying themselves regarding it.

As I have expressed myself with some warmth in the enclosed paper, it may be right that I should here emphatically disclaim having any interest, in the narrow sense of the word, in putting forward my views. I certainly am greatly interested in improved transatlantic intercourse, but I am not directly or indirectly concerned in either shipbuilding or engineering. Circumstances, however, make me acquainted with the fact that there is cause for indignation against those parties who, ensconced behind extravagant subsidies from the public purse, are emboldened literally to strangle progress, to the prejudice of the service, and the mortifying discredit of the national character for shipbuilding and marine engineering skill.

This assertion admits of proof, although some of the parties referred to may have the hardihood to make flimsy, plausible insinuations in their defence.

It is with reluctance, in some respects, that I expose myself to the odium which these remarks (the sting of which is in their truth) may excite, but I do it not in the dark, as I give a copy of this letter to my friend, Mr. Cunard, who cannot impugn a word of it.

In conclusion, I would observe that, although up to this time the Americans, owing to their previous inexperience in salt-water steam navigation, have not accomplished anything better than imitations of those discreditable specimens of British marine engineering which have been exhibited in their ports, it cannot be expected that progress on their part shall be long repressed. It behoves this country to anticipate them. Mr. Huskisson truly said that "England cannot afford to be in arrear of any other nation in the progress of useful improvement."

Respectfully referring the Commissioners to the enclosed printed paper,

I have, &c.,

Robert McCalmont.

To Lord Hobart, Secretary to the Transatlantic Packet Station Commission.

Transatlantic Packet Station.

The Commissioners appointed by Government to report on this subject have, in their search for information, circulated a number of queries, but from the manner in which various points are involved in each other, they do not admit of direct *seriatim* reply. They also contain some irrelevant matter, especially with reference to the conveyance of goods. The inquiry does not appear to be sufficiently concentrated upon the subject under investigation, which subject is the determination of a packet station; and although this inquiry will legitimately and necessarily involve digression into several collateral matters, the conveyance of goods is clearly unconnected with it.

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The conveyance of goods is an affair for producers, and consumers, and shipowners, to arrange for themselves. It will seldom happen that the best packet station shall be found to be the medium whereby goods can be sent profitably to market; but it is an affair with which the public, and consequently the Packet Station Commissioners, have no concern, and need have no solicitude.

According to Dr. Johnson, a packet means a post-ship, not a sea-waggon; and all that the public avowedly interfere in is the transmission of intelligence by packets, or post-ships, which cannot undertake the office of sea-waggons without detriment to their efficient performance of their primary duty.

The Dover and Calais Packet Stations, or the Holyhead and Kingstown Packet Stations, are not selected and appointed with reference to the conveyance of eggs, butter, silks, or satins; and neither must Transatlantic Packet Stations be selected and arranged with reference to the conveyance of linens and linens, notwithstanding the jumbled ideas of the Glasgow Chamber of Commerce, and many other such bodies, on the subject.

The Glasgow Chamber of Commerce, for example, in their memorial against the establishment of an Irish Transatlantic Packet Station, allege that it would have the effect of "throwing by far the largest portion of passengers and goods traffic into the hands of the Americans direct from Liverpool." Perhaps it would; but if artificial arrangements are desirable for averting this anticipation of the Glasgow Chamber of Commerce, a side-wind or dodge is not the proper weapon. Let it be openly considered and discussed whether an undisguised, straightforward, new navigation law, with discriminating duties or bounties against foreigners, calculated to have the desired effect of giving a heavy blow and great discouragement to American steamers in the trade with England, ought or ought not to be enacted; but if this be sought for, let it be done aboveboard on its merits, instead of the real, pure, packet station question, and subsidies being obscured and mystified by the dodge of making them a stalking-horse for cargo bounties to select squadrons of British mercantile steamers. If shippers of goods and shipowners be left to themselves, without any paralyzing influence of this kind, the sea will soon swarm with mercantile sea-waggons, with auxiliary screw-power, by which goods will be conveyed as required from the sources of their production to New York, or whenever they may be in demand.

That an open discussion will quash the idea of bounties being given to cargo steamers there cannot be a doubt, and the only incidental employment of mail steamers deserving any degree of public support will be found to be the conveyance of emigrants and their connexions, and other passengers, between the mother country and the British colonies.

It will be found that the most perfect system for conveyance of intelligence between the Old World and the New can be most harmoniously combined with the economical promotion of an enormously improved system of emigration, affording what has generally been deemed an unattainable desideratum in regard to that object.

An extract from a speech of the late Sir Robert Peel, on the introduction of the Irish Poor Law Bill in the House of Commons, on 13th of February, 1837, will serve to show how he could not have failed to appreciate what will in the sequel of this paper be shown to be now attainable. Sir Robert Peel, in the speech alluded to, said:—"The hon. and learned member for Dublin has asked why the Government, in the case of Ireland, do not follow the example of the United States? 'See,' says the hon. and learned gentleman, 'how widely extensive, and wonderfully beneficial, is the system of emigration acted upon in the United States of America.' No doubt many and great benefits have resulted from the system in that country; but it must never be forgotten that the question of emigration here is vastly different to what it is in America. There, the emigration consists only of a removal from one part of a great continent to another; here no emigration can take place except by a long passage over sea, attended with many expenses, much inconvenience, and the depressing notion of a complete separation and alienation from one's fathers. All these afford, in England and Ireland, obstructions to extensive emigration—obstructions not known in the United States."

Now, it fortunately happens that the most perfect transatlantic packet system that can be devised for the transmission of intelligence, at a speed which will leave the Cunard pretensions as immeasurably in the back ground as they left their sailing predecessors, can be combined with affording the means of personal intercourse, to and fro, to a vast extent, at so small a cost per head as entirely to dissipate all these drawbacks, pictured by Sir Robert Peel, to emigration in connexion with the British North American Colonies, and bring those undervalued provinces and the United Kingdom into the same practical contiguity with each other as subsists between the different states of the American Union—commencing a new era in colonization and the progress of the British transatlantic possessions. Alienation, and final separation of relatives, will cease to be a necessary adjunct of emigration.

Although cargoes cannot be carried cheaply at high speed, the case is radically different with passengers, provided that the passengers are sufficient in number to occupy large vessels; for the weight of passengers being inappreciable, their carriage does not, like goods, necessarily preclude the use of fast steamers for their conveyance; and although the absolute cost of a large steamer, going at a high speed, must unavoidably be great, if measured annually, such steamer can perform so many voyages in a year, and can carry so many people each time, that the cost per passenger need not be by any means so heavy as might be anticipated.

A large scale being essential in a steam-vessel towards obtaining high speed, the arrangements necessary for celerity in the transmission of intelligence, and the arrangements for accomplishing the grand national anti-Malthusian desideratum of making British America and British Europe practically one country, become thus identical. Not merely the conveyance of emigrants, but unlimited personal intercourse to and fro, of all classes, will thus exist;—there would be no gulf between those who go and those who stay behind, with its depressing notions; and emigration, such as has been longed for, but feared to be unattainable, could then go on.

It remains to submit a scheme and estimate for such a line of colonization packets as ought to be established between the west of Ireland and Halifax. So great are the advantages possessed by steamers on a large scale over smaller vessels, *ceteris paribus*, that concentration at one trunk-ferry is dictated. The expense and probable employment of the available accommodation of the ships is the only limitation to their size. Upon the whole, it would probably be found that vessels of 2,000 to 2,500 tons, and 800 to 1,000 horse power, would for some time to come be found the most suitable size. Vessels of this size, if specially constructed for the conveyance of intelligence and passengers for the length of run between Ireland and Nova Scotia, can be made to maintain an average speed of 15 knots for that distance, thus performing the passage in six days. They would never make a

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tedious passage. In this latter circumstance would be one of their great merits. Such gales as would retard the ill-constructed Cunard vessels several days, would be scarcely felt by these contemplated vessels; and if their passage ever extended to eight days, it must be under such exceptionally adverse weather as might extend a Cunard passage to 15 days.

That celebrated naval architect, Mr. Oliver W. Lang, of Her Majesty's Dockyard, Chatham, has, at my suggestion, in concert with Mr. Penn, the eminent marine engineer of Greenwich (known as the constructor of many of the best engines in the royal navy, and elsewhere), designed a vessel calculated for this service. All the information to be derived from this design will be at the service of the Packet Station Commissioners, and at the service of other parties desirous of promoting the object in a *bonâ fide* manner.

As regards the cost of a combined post-office, electric and colonization intercourse by means of such vessels, it would probably be as follows:—It may be assumed that the service required would embrace a weekly mail each way during eight months of the year, and a fortnightly mail during the four winter months. This would be 88 passages per annum, and making allowance for contingencies and ships being sometimes under repair, it could be sustained by five vessels. (If five vessels were in uninterrupted work, they could perform together 130 passages annually, and it may be considered that in practice they could easily fulfil the required duty of 88 passages.)

	£.
The cost of the five ships would be	500,000
The annual expense of 88 passages would be, coals . .	80,000
Wages, victuals, sundries, exclusive of steward's department .	50,000
Insurance, interest, repairs, &c.; depreciation 25 per cent. .	125,000
Total annual cost of 88 passages . . .	£255,000

Though round numbers are here given, the figures are rounded off on the safe side, and there need be no distrust of the estimates on that ground.

In return for this gross annual sum there would be derived the performance of the Post-office services in a transcendent manner—the electric service, that is to say, the most rapid interchange of messages and intelligence between the extremities of the electric systems of the two hemispheres—and the conveyance of a vast mass of passengers to and fro, the value of which it would be impossible to estimate with pretensions to accuracy. Towards enabling others to estimate its value it may be stated, that each vessel performing these 88 passages would have the elements of accommodation to the extent of 11,000 superficial feet of cabin floor; and that, according to the Passenger Act, one adult passenger is allowed to 10 superficial feet. As the Passenger Act regulations are framed with reference to sailing vessels, which are subject to very tedious voyages, it is clear that a modification of this Act might safely be made, so as to allow steam-vessels occupying only a week at sea to take a much larger number of passengers in proportion to their space; but in the following calculation no credit will be taken for such modification.

Suppose, then, that the 11,000 superficial feet of cabin floor be allotted thus, viz.:—

2,500 feet to 100 cabin passengers, at 25 feet each passenger.
3,000 feet to 200 intermediate class passengers, at 15 feet each passenger.
5,500 feet to 550 steerage passengers, at 10 feet each passenger.

11,000 feet.

Supposing the rates of passage-money to be 10*l.* for each cabin passenger, 5*l.* for each intermediate passenger, and 2*l.* for each steerage passenger—and suppose the vessels to be full on each of their outward voyages, and to have only 100 cabin passengers, 100 intermediate, and 100 steerage passengers on each homeward voyage—

	£.
The annual passage-money would amount to	211,200
The gross annual cost of the line, as has been estimated above, being .	255,000
Leaves as a charge against the Post office . .	£43,800

The cost of passengers' provisions is not included in the above rates of passage-money, but it would be a trifle—not more than 6*s.* a-day per cabin passenger, 2*s.* 6*d.* a-day for intermediate, and 1*s.* a-day for steerage passengers.

It is not pretended that the foregoing estimate of the number of passengers should prove exactly correct. The number that may be expected is a matter of opinion, but looking at the existing number constantly going by sailing vessels, there are few people who will not admit that the foregoing estimate, considering the low fares assumed, is a very moderate one. Any one, however, can modify it according to his own judgment of probability. It will be more easy to magnify it than to diminish it.

The traffic of passengers at this European and American Ferry will never attain its due expansion, however, unless the Halifax and Quebec, and Halifax and Portland Railways be undertaken; but, on their completion, the traffic would be ten times as great as the above estimate, and a very much larger class of steam-vessels would then be required.

As regards the indirect prospective economy to the Post-office that would arise from this Transatlantic Trunk Ferry being perfected, it is to be observed, that the West Indies would be more speedily reached by this line, with an offshoot from Halifax, than by the Royal West India Mail route; and here there would be the elements of a future saving of public expense on that line to the extent of at least 150,000*l.* per annum. It is also to be observed, that with the proposed vessels in operation by the British Government upon this ferry, the whole entire transatlantic postage would be received by the British Post Office, to the complete exclusion of the United States mail steamers, which on the voyage from New York to England could not approach in speed vessels adopted to the shorter ferry from Halifax. This point cannot be too forcibly insisted on.

It is particularly to be hoped that the design of a modern steam-vessel suited to this ferry, as submitted by Mr. Lang and Mr. Penn to the Commissioners, may be scrutinized, and this branch of the subject probed.

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Miscellaneous Letters, Reports, &c.

It ought not to be quashed by the incredulity of ignorance, or the pooh-poohs of interested parties, under whose withering influence British talent and superiority is at present hid under a bushel. It suits some parties to crush genius with their deadly monopolist paw; and it is amazing with what voluntary ignorance and tameness the public submit, and are content with the undeserved *éclat* of the Cunard Company. Their outrageous efforts to hold back the advancing wave of science must be shown to be as futile as was Canute's sceptre to turn back the waves of the sea.

ROBERT MCCALMONT.

30, *Eaton-square, London, January*, 1851.

Packet Station Committee, Chamber of Commerce, Limerick, February 8, 1851.

MY LORD,

WITH reference to the replies from the Limerick Committee to certain queries of the Transatlantic Packet Station Commissioners, dated 14th ult., we beg leave to enclose an abstract table of the daily observations on the height of the tides, taken at the port of Limerick during the last five years, which probably may prove satisfactory to the Commissioners, being the data on which the answers of the Committee were founded.

We also beg leave to add that we have lately had opportunity of accurately measuring the distance from Limerick to Foynes upon the Ordnance map, on the large scale, and find that the distance by the river course, from the new dock at Limerick to the new pier at Foynes, is 21¾ miles, and according to the Admiralty chart of the Shannon it is 19 nautical miles, which corresponds with the Ordnance map, and both verifying the replies of this Committee.

It is obvious that with a suitable steamer this distance may be run in an hour and a half, as already stated by the Committee, being at the rate of 14 statute miles per hour, which is an ordinary rate of speed for the latest improved river steamers.

We have, &c.,

The Lord Hobart, Secretary, Packet Station Commission, London.

WILLIAM RANDALL, WILLIAM CARROLL, } *Secretaries.*

LIMERICK HARBOUR.

MONTHLY ABSTRACT of Tidal Observations taken Daily during the Years 1846, 1847, 1848 1849, and 1850.

New Moon, or Springs.		First Quarter, or Neaps.		Full Moon, or Springs.		Last Quarter, or Neaps.	
Date.	Height.	Date.	Height.	Date.	Height.	Date.	Height.
1846.	Ft. In.	1846.	Ft. In.	1846.	Ft. In.	1846.	Ft. In.
January 29	21 6	January 6	14 6	January 14	18 4	January 21	15 4
February 27	21 4	February 5	14 0	February 13	17 5	February 19	14 4
March 28	19 10	March 7	13 6	March 16	19 0	March 20	14 6
April 25	18 7	April 4	13 2	April 13	19 2	April 19	14 1
May 25	17 3	May 3	12 10	May 12	18 4	May 19	16 0
June 26	17 9	June 2	13 5	June 11	18 3	June 17	15 0
July 21	18 0	July 2	14 6	July 12	18 9	July 18	16 0
August 23	16 9	August 1	14 0	August 9	19 8	August 16	14 5
September 23	18 6	,, 30	14 0	September 8	19 8	September 14	13 1
October 21	22 0	September 29	15 2	October 7	21 0	October 13	12 6
November 20	20 0	October 27	15 3	November 4	19 3	November 12	13 0
December 20	20 0	November 27	15 11	December 3	18 8	December 12	13 0
		December 28	14 11				
Average .	19 3½		14 3		18 11½		14 3¼
1847.		1847.		1847.		1847.	
January 19	19 9	January 27	15 10	January 2	17 10	January 10	13 6
February 18	20 6	February 24	13 6	,, 30	18 2	February 10	13 2
March 17	21 0	March 25	13 8	March 4	17 3	March 10	13 3
April 16	19 6	April 23	13 4	April 2	17 6	April 7	14 10
May 14	19 2	May 22	14 4	,, 27	18 6	May 8	15 1
June 14	18 6	June 22	14 8	May 30	17 4	June 6	14 11
July 13	17 2	July 20	13 10	June 27	17 4	July 6	15 7
August 12	17 6	August 19	13 6	July 31	18 10	August 5	15 3
September 12	18 0	September 18	13 8	August 27	18 8	September 4	14 0
October 11	18 2	October 17	14 3	September 25	19 6	October 2	13 10
November 10	19 0	November 17	14 6	October 24	20 0	November 2	14 0
December 9	19 0	December 15	16 6	November 21	21 0	December 1	13 9
				December 23	19 0	,, 31	13 6
Average .	18 11¼		14 3½		18 6¼		14 2¼

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Monthly Abstract of Tidal Observations taken Daily, &c.—*continued.*

New Moon, or Springs.			First Quarter, or Neaps.			Full Moon, or Springs.			Last Quarter, or Neaps.		
Date.	Height.		Date.	Height.		Date.	Height.		Date.	Height.	
	Ft.	In.		Ft.	In.		Ft.	In.		Ft.	In.
1848.			1848.			1848.			1848.		
January 7	18	9	January 15	14	9	January 22	18	8	January 31	13	3
February 9	20	6	February 14	15	7	February 22	19	0	February 29	14	3
March 7	19	7	March 13	14	6	March 20	18	8	March 28	13	4
April 5	20	0	April 11	13	10	April 19	18	3	April 26	13	7
May 4	19	4	May 10	14	1	May 16	17	4	May 25	14	2
June 2	19	4	June 9	14	5	June 18	16	10	June 25	15	3
,, 29	19	0	July 10	13	5	July 20	18	6	July 24	16	4
July 31	18	9	August 9	13	6	August 17	19	0	August 23	15	2
August 28	18	8	September 7	14	6	September 15	18	8	September 21	14	9
September 27	18	2	October 6	13	7	October 14	19	2	October 20	14	6
October 27	19	6	November 4	13	6	November 12	18	8	November 19	13	11
November 26	18	8	December 3	15	2	December 13	20	2	December 19	14	8
December 26	18	6									
Average .	19	1½		14	2½		18	7		14	5½
1849.			1849.			1849.			1849.		
January 25	20	0	January 2	15	5	January 10	21	0	January 17	14	4
February 25	19	3	February 2	15	2	February 8	19	6	February 17	12	0
March 27	19	9	March 3	14	5	March 9	18	8	March 18	12	5
April 25	19	4	April 1	15	3	April 8	18	8	April 15	12	5
May 23	19	6	,, 30	14	8	May 7	17	0	May 15	13	8
June 21	18	10	May 30	14	7	June 6	16	4	June 13	13	10
July 21	18	6	June 28	14	1	July 7	17	4	July 14	14	5
August 19	18	6	July 27	14	4	August 7	17	3	August 13	16	0
September 16	18	3	August 27	13	2	September 4	18	0	September 10	15	5
October 17	19	6	September 26	12	0	October 4	19	4	October 19	15	0
November 14	18	8	October 25	14	1	November 2	19	6	November 9	15	4
December 17	18	6	November 24	14	6	December 2	19	6	December 8	15	0
			December 23	13	10	1850.					
						January 1	19	0			
Average .	19	0½		14	3½		18	6½		14	1½
1850.			1850.			1850.			1850.		
January 15	17	10	January 22	14	2	January 29	19	6	January 8	13	10
February 12	18	2	February 22	14	11	February 28	19	7	February 6	14	6
March 16	18	0	March 21	14	1	March 29	19	5	March 7	12	2
April 15	19	5	April 21	15	0	April 27	17	9	April 5	13	6
May 11	18	6	May 20	15	2	May 26	18	0	May 5	12	8
June 12	19	6	June 18	15	6	June 22	17	0	June 4	13	5
July 11	18	6	July 18	14	6	July 25	16	9	July 3	15	0
August 9	20	0	August 17	14	1	August 25	18	0	August 1	14	0
September 7	19	0	September 14	13	2	September 23	18	0	,, 31	14	0
October 7	19	6	October 13	12	10	October 23	18	2	October 1	14	7
November 5	20	0	November 12	12	10	November 19	22	0	,, 29	14	8
December 4	18	6	December 12	14	10	December 21	19	0	November 27	15	0
									December 27	14	8
Average .	18	11		14	3		18	7		14	0

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YEARLY ABSTRACT of foregoing Monthly Tidal Tables.

YEAR.	New Moon (Springs).	First Quarter (Neaps).	Full Moon (Springs).	Last Quarter (Neaps).
	Ft. In.	Ft. In.	Ft. In.	Ft. In.
1846	19 3½	14 3	18 11½	14 3½
1847	18 11½	14 3½	18 6½	14 2½
1848	19 1½	14 2½	18 7	14 5½
1849	19 0½	14 3½	18 6½	14 1½
1850	18 11	14 3	18 7	14 0
Average	19 0½	14 3½	18 7½	14 2½
	3 7	3 7	3 7	3 7
	22 7½	17 10½	22 2½	17 9½

Springs.

	Ft.	In.		Ft.	In.
New Moon .	22	7½	Average	22	5
Full Moon .	22	2½			

Neaps.

First Quarter .	17	10½	,,	17	10
Last Quarter .	17	9½			

The foregoing Tables are compiled from the daily observations taken at the port of Limerick during the last five years. The zero of the tide-gauge is the sill of the Wellesley Dock, and the new dock-sill is to be 3 feet 7 inches lower, which is, therefore, added at foot of the yearly abstract.

The average for the neaps is struck from the *lowest* tides during the five years, which may, therefore, be considered a very low standard for the neap tides of this port.

The river-way immediately in front of the new dock is from 8 to 10 feet below low water of ordinary spring tides, which gives about 28 feet at the dock at high water.

FURTHER CIRCUMSTANCES IN FAVOUR OF GALWAY, as compared with LIVERPOOL.

IN my statement this day to the Commissioners, I showed the saving which would be effected in consequence of the reduced quantity of coals necessary for the shorter sea voyage from Galway.

In addition to this, I now beg to add that the following additional saving and advantages would also be effected:—

The saving of 350 miles in the voyage, or 30 hours in time, would not only effect a saving of the cost and freight-room of the coals, but also a proportionate saving of wages, provisions, and all other expenses of the voyage; the extent of which will probably be most correctly appreciated by estimating the saving of distance as about one-eighth of the voyage or time from Liverpool. An increased number of voyages could be made in the same proportion, and a lesser number of vessels would perform the work.

Say seven vessels from Galway should perform as many voyages as eight would do from Liverpool. The new vessels which are now building for Mr. Cunard will cost about 120,000*l.* each. The working with one vessel less would effect a saving, not only of this sum, but also of the wear and tear, and all the expenses of maintaining and working the vessel.

Even if the same number of vessels should be considered more desirable, the wear and tear, and all other seagoing expenses of each voyage, would be at least one-eighth less. Indeed the saving should be greater, as the proportionate wear and tear of the machinery, boilers, &c., would be diminished in a greater degree than the diminished length of the voyage. The longer engines and boilers are worked without examination and perfect adjustment, the greater is the proportionate wear and tear.

February 15, 1851.

JAMES PERRY.

MY LORD,

Obelisk Park, Dublin, February 20, 1851.

I BEG to return herewith the short-hand writer's notes of my communications to the Commissioners on Saturday last, which were generally very accurately taken down. I have marked the few trifling corrections in red ink as you directed.

Further consideration has confirmed my opinion that the assumed difference of twelve hours in favour of Galway as compared with Liverpool is too little. I think there would be that difference in favour of Galway as compared with Holyhead, and four to six hours more as compared with Liverpool, where vessels drawing 20 feet of water could only pass at or near high water.

I have spoken to our engineer on the subject of the docks, and he assures me that the natural facilities for their construction are to be had there; and on this subject I shall be happy to procure and forward any detailed information which the Commissioners may desire.

Lord Hobart,
&c. &c.

I have, &c.,
JAMES PERRY.

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Packet Station Committee, Limerick, February 22, 1851.

My Lord,

I am directed to forward to your Lordship, for the information of the Commissioners, the accompanying copy of a letter from Mr. Long, C.E., addressed to them, presenting specimens of bituminous and anthracite coal raised at several localities along the Shannon. The Committee conceiving that this is a matter of considerable importance as connected with the inquiry in which the Commissioners are engaged, they deem it desirable to place the specimens as well as the report under their notice, and I have therefore forwarded a case containing specimens of the coals referred to, addressed to your Lordship.

I have, &c.,

The Lord Hobart,
Packet Station Commission, Board of Trade, London.

William Carrol,
Secretary

Gentlemen,

Limerick, February 22, 1851.

Having lately made a collection of the natural products in the several counties along the Shannon, to forward to the Great Exhibition of London, amongst which was the coal and peat fuels of these districts, and as the facilities presented by the different western ports for supplying fuel may be regarded as a consideration of importance in the Transatlantic Packet Station inquiry, the specimens of coal which I herewith forward will no doubt be acceptable to the Limerick Committee.

No. 1 is the bituminous coal of the county of Leitrim, at the head of the Shannon, which is raised at the shores of Lough Allen, one of the large navigable lakes of the river, from whence there is a continuous inland steam navigation to Killaloe, and thence a short canal to Limerick. Clay ironstone, of superior quality, is also very abundant in this district, associated with the coal, together with limestone suitable for flux in smelting, as well as moulding sand, fire-clay, fire-stone, gypsum, &c.

No. 2 is the anthracite coal of Tipperary, one of the counties bordering the Shannon. This coal is brought into Limerick per railway, and is used for malting, drying corn, &c.

No. 3 is the anthracite coal of the counties of Clare, Kerry, and Limerick. This is considered the largest coalfield in the kingdom, and the coal is raised in several localities along both sides of the estuary of the Shannon, from Limerick to the sea. Some pits have been sunk near Foynes and Tarbert, as well as at Labasheeda, on the opposite side of the estuary, but only to the depth of the upper thin beds, and the coal has been raised only in moderate quantities, to suit the limited demands of the locality, for drying corn, burning lime, &c.

None of these coals are used to any great extent in the surrounding districts, except in the immediate localities of the mines; nor is it likely they will come into much use for domestic purposes, whilst abundance of peat fuel can be found, as at present, so conveniently dispersed throughout the country, and at so moderate a cost; and even the steamers plying on the river, as well as the large steam-mills in Limerick and elsewhere, find it their interest to use peat in preference to coal. These remarks are especially applicable to the coal on the Lower Shannon, where peat is so abundant, and accordingly this extensive coalfield has been very little explored.

According to the researches of Sir Robert Kane, who went into a full chemical examination of the fuels of Ireland, the bituminous coal of the county of Leitrim (No. 1) yields as follows:—

INGREDIENTS.	Aughabehy Mine.	Coltnaveena Mine.	Rover Mine.
Volatile matter .	23·10	19·10	17·70
Pure coke . .	66·15	65·87	74·89
Ashes . . .	10·75	15·03	7·41
Total . .	100·00	100·00	100·00

This coal is stated by Mr. Griffith, as intermediate to the open-burning or quick-blazing coal of Scotland and the caking coal of Whitehaven. Mr. Twigg called it a coking coal of good quality.

Through the kindness of Mr. Hendly, of London, who manages the gas-works in this city, I last week tried an experiment on this bituminous coal, to ascertain its qualities for producing coke and illuminating gas, as compared with Newcastle coal. Two of the gas retorts were cleared out, and into one was placed a single lump of the Leitrim coal, weighing 9 lbs, and a similar lump of Newcastle coal into the other; and after remaining six hours and a half, the result was an equal quantity of coke, both yielding 7½ lbs.; equal to five-sixths, which indicates an inconsiderable loss from impurities. There was no opportunity of measuring the amount of gas, but Mr. Headly's opinion is, that the yield of gas would be almost equal in both cases, and to all appearance more favourable to the Leitrim coal. To the specimens now forwarded I have added some of the Newcastle coal used in the gas-works in Limerick, together with the coke produced in both the above cases, and probably there could not be a more familiar way of forming a general notion of the quality of the Leitrim coal than considering it as in a great degree similar to Newcastle coal, to which (as will be seen by comparing them) it presents a great similarity in appearance, as well as in its results in producing coke and gas.

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Miscellaneous Letters, Reports, &c.

The anthracite coal of Tipperary (No. 2) is delivered at present in Limerick at 14*s.* per ton.

The anthracite coal of Limerick, Clare, and Kerry may be delivered at Foynes and Tarbert at 5*s.* or 6*s.* per ton; and as it might be raised at either of these localities immediately at the packet station, the cost would be less, say 5*s.* per ton.

The American Atlantic steamers use anthracite coal from necessity, not having coal of other quality; but the injurious action of this kind of coal on boilers gives the preference to bituminous coal where it can be readily obtained.

It may, however, be found that a suitable admixture of both would afford a superior quality of fuel, the intense local heat of the anthracite coal being corrected by the greater diffusive power of the bituminous coal; whilst the latter would most probably be proportionably enhanced in heating quality by the admixture of the anthracite coal. Equal quantities of both could be obtained on the Lower Shannon at about 8*s.* or 9*s.* per ton, whilst the bituminous coal of Leitrim alone would cost, as before stated, about 11*s.* or 12*s.* per ton, being still about 30 per cent. cheaper than the cost of English coal delivered on the Shannon, or at any of the other western ports.

Independent of the manifest bearing which these considerations have on this subject, its direct tendency to develop an important source of industry, especially in the coal and iron products of the Arigua district, would present a contingent advantage of considerable moment, from whence, doubtless, would flow other useful results in connexion with the various other natural resources along this great river, which might fairly be regarded as conferring benefits of scarcely less than national importance.

I have, &c.,

The Secretaries of the Limerick Committee.

JOHN LONG.

MY LORD,

Packet Station, February 27, 1851.

I HAVE the honour to transmit to you, for the information of the Transatlantic Commission, observations on the time-table which you were so good as to give me when I attended at your Board. These observations are prepared by the Committee named at Limerick to consider the question, and I transmit them, on their behalf and at their desire.

I have, &c.,

MONTEAGLE.

TRANSATLANTIC PACKET STATION.

MY LORD,

Chamber of Commerce, Limerick, December 24, 1850.

HAVING laid before the Limerick Committee at their meeting to-day your Lordship's letter of the 20th, with the copy of time-table compiled by the Commissioners, which you had the goodness to send for their information, we have been directed to transmit to you the opinions of our Committee thereon, which you will oblige them by communicating to the Commissioners as you may deem most advisable.

The Committee having investigated the time-table of the Commissioners, are gratified to find that as regards distances, the statements previously put forward by them appear to be confirmed. They cannot, however, concur in the results which have been deduced therefrom, exhibiting a difference of gain of time of only 9 hours 8½ minutes, in favour of the route *viâ* Tarbert to Holyhead, as compared with that by long sea. The Committee in all their calculations hitherto have taken the speed across the ocean at 11 miles per hour, which appears to be precisely the rate assumed by the Commissioners; but in the calculations made at Limerick, the rate in coasting and channel voyage from Cape Clear to the English port was taken at eight miles per hour, and in this their difference with the Commissioners consists.

It must be borne in mind in this calculation that the rate of speed for the coasting and channel voyage cannot be assumed to be as great as that across the ocean; nor is it to be calculated with reference to favourable circumstances, as full allowance must be made for all the risks of that portion of the voyage and the disadvantages presented by thick weather, cross tides, long nights, a crowded channel, and a dangerous navigation. The Committee accordingly maintain that the calculation hitherto adopted by them of eight miles per hour is a fair average rate for that portion of the voyage between Cape Clear and Holyhead, the result of which will be thus—

New York to Holyhead direct—

New York to Cape Clear at 11 miles per hour		10 days	3 hours.
Cape Clear to Holyhead at 8 ,,		1 ,,	5 ,,
		11	8
New York to Tarbert at 11 miles per hour	10 days 2 hours		
Tarbert to Dublin	5 ,,		
Dublin to Holyhead	4 ,,		
Delays	1 ,,	— 10	12
Gain *viâ* Tarbert		0	20

Having thus clearly shown, under all ordinary circumstances, a gain of 20 hours in favour of Tarbert (the port of the Shannon assumed by the Commissioners), the Committee desire

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to observe that this matter ought not to be regarded with reference merely to the question of time, as it involves many other important considerations in regard to safety, expense, postal, and passenger facilities, and the manifold ulterior advantages to the empire in general, and particularly to Ireland, which would result from it, as they have endeavoured to explain in the detailed statements which they have already forwarded to the Commissioners.

We have, &c.,

WM. RANDALL,
WILLIAM CARROLL, } *Secretaries.*

The Lord Monteagle, &c., London.

MY LORD, *Rosetta, Belfast, February 27, 1851.*

As chairman of the Transatlantic Packet Station Commissioners, I most respectfully transmit to your Lordship copies of some letters of mine which appeared in a local newspaper, "The Northern Whig," of Belfast.

Accompanying these documents is a copy of a Petition sent off to the Lords Commissioners of Her Majesty's Customs by our Chamber of Commerce, and my object in laying this before you is to show, that *my* statements and opinions are in accordance with the views of the leading merchants of this town, who are extensively engaged in the American trade, competent, both as shipowners and export merchants, to understand the question before you in all its details, and who, I think the Government will admit, are not in the habit of expressing their views without careful consideration and minute inquiry.

I also most respectfully forward to your Lordship some copies of the "New York Dry Goods Reporter," a paper for which I subscribe, and the statistics of which are considered to be correct. My object in laying these papers before the Commissioners is, to show the importance, nay, the *absolute necessity* there exists, of developing the industrial resources of Ireland, and of our own colonies, and thereby of promoting a trade which *at present exists* in this country, and with which America cannot contend or interfere for several centuries to come.

The first article I wish to direct your Lordship's attention to is headed, "Manufacturing Progress," dated June 29th, 1850. It says,—"that in the cotton-growing districts there are already 175,000 spindles at work, consuming 100,000 bales of cotton annually, on which, by the avoidance of packing, pressing, forwarding, freight, and charges, there is a saving of 25 per cent.;" and it goes on to say,—"that every post brings intelligence of the erection of additional factories."

With reference to this statement, I beg to observe, that in the manufacture of heavy cottons the cost of manual labour is about 25 to 30 per cent. of the cost of the finished article, whilst on the other hand the duties, freight, and charges in *exporting them from these countries to the United States* amount to 50 per cent. upon the invoice, and 65 to 70 per cent. if sold through a commission house there. This, I presume, will satisfy your mind that the only cotton goods we will continue to export to the "States" are those light and fancy articles *the cost of which is principally labour*. My own opinion is, that the American will, ere long, successfully rival us as *exporters* of cotton goods made by machinery, and I beg to point out the rapid strides they are making, by referring you to the articles in these papers headed, "*Domestic dry goods*," showing the formidable quantity and vast variety of articles manufactured there of cotton, silk, and wool. *They* are promoting the legitimate trade of *their* country. *We* should use every exertion to extend the legitimate trade of *ours*, and turn to the best account our natural advantages, by extending flax cultivation, and the consequent manufacture of linens, for which Ireland is *better* adapted than any other country, either on the Continent or elsewhere. To supply our present demand we require the produce of 500,000 acres of flax annually, and our requirements will be daily growing larger. Should we not try and obtain this supply from the waste lands of Ireland, and our own provinces, instead of depending upon Russia and other countries, whose tariffs even yet are almost prohibitative, and thus show them it is their interest, quite as much as ours, to adopt the principles of free trade?

In my letter of 6th January, I have stated my belief, that the dealers in Continental manufactures who now sail direct to the Continent, will, in consequence of the short and cheap sea route, land on our shores, and become purchasers of British productions. In order to show your Lordship that the purchases of these houses are extensive and important, I beg to direct your attention to *their* advertisements, which appear in these papers side by side with the advertisements of the importers of *British* goods; you will also observe the *imports from every country*, and be able to draw your own comparisons and conclusions. With reference to these imports, I cannot avoid saying, *that if the south and west were opened up to the foreign merchant*, almost all the articles produced upon the Continent *could* and *would* be made in Ireland. We have labour as cheap (and these fancy articles are almost entirely labour)—we have people as willing to work, if they can get work, as any people in the world. As an evidence of the correctness of my views I beg to refer your Lordship to the statements submitted last year to his Excellency Lord Clarendon, by Mr. McAdam, the secretary to the Royal Flax Improvement Society, showing that in the sewed muslin manufacture alone there are in Ireland upwards of 300,000 females employed, and that this trade used formerly to be principally confined to France, Switzerland, and Germany; whilst the labouring population in the towns and country for 20 miles round Belfast are engaged weaving the light fabrics of cottons that used to be made extensively in Switzerland. These articles are sold in England and Scotland, or disposed of in America by our own travellers or agents, for we cannot get the foreign merchants to visit us, *and our position in this respect will not be improved in the slightest degree by the station*

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Miscellaneous Letters, Reports, &c.

being made at Holyhead; and if Holyhead is made a port of call, the passengers will be greatly dissatisfied with the delay in giving out or receiving letters and despatches.

In my letter of 19th instant, I have shown the extraordinary saving from the shortening of the sea voyage, and have drawn what I consider to be the natural inference—that as nearly a quarter of a million of our people emigrate annually to the United States, *it ought to be the policy of our Government to induce them, if possible, to settle in our own colonies*, where there is no clashing of interests, no high protective tariff, but, on the contrary, full reciprocity in trade, commerce, and in *prosperity*, and I see no reason why they should not be as prosperous as their neighbours adjoining them, if they are governed by as sound and just laws. In our intercourse with foreign countries we ought to pursue a liberal policy, but it is surely of *equal* importance for us to consolidate our own power and greatness by our rulers removing every impediment to the welfare and well-being of the people committed to their charge; and it may also be well to bear in mind, that we will have almost the total supplying of our own people, whilst, according to the American return in yards, we do not get a fifth part.

It is understood here that your Lordship has come to the conclusion, that the time occupied by the transatlantic steamers on their outward passage is 13 days 7 hours—the homeward one 10 days 13; the average of which is 11 days 22 hours. According to my calculation of distances, the saving from Galway, or Bisterbuoy, on the west coast, is about one-tenth part, which would make a difference of time in the sea voyage of 1 day 4½ hours. This, however, is assuming that the vessel sails throughout at the same rate, which in practice is not the fact, for she is not in sailing trim till a part of her coals are consumed; nor will any prudent captain keep up a high pressure of steam at the land falls, so that we may fairly set down the saving at 2 days. I am confirmed in this view by the testimony of my own travellers, and of several hundred American gentlemen who are in the habit of crossing and re-crossing several times a-year. Out of these 2 days I deduct 8 or 9 hours for passing over to Holyhead, which shows the actual saving to be 1 day 15 hours. This, however, is looking to English interests alone; and I submit to your Lordship, *that both the Scotch people and the Irish should be taken into account*, for either place produces as many goods for the States as England, and of descriptions that leave as great a profit to the country.

I am informed, however, that the Commissioners have set down the saving of time at 13 hours. Of course we do not know how this calculation is made up, but allowing its correctness, for the sake of argument, I am sure every steam-boat agent will bear me out in the assertion, *that every passenger will go by the route that saves even* 10 *hours*. I know by my own experience, that the channel boat that saves half-an-hour gets our passengers between this and Great Britain; and I respectfully submit to your Lordship's consideration, that a saving of time on a *long* voyage is as *great an object*, and quite *as agreeable*, as if saved upon a short one.

The saving of expense is also worth consideration. The outward passage now costs 35*l*., or about 2¼*d*. per mile; the homeward passage is 30*l*., or 2½*d*. per mile. Starting from the west coast, the cost is 1½*d*. per mile; and to Cape Cause, if the railway was completed, the cost would be reduced to 1¼*d*. per mile.

With regard *to the question of goods*, I think it well to explain to your Lordship that, in America, as in almost all foreign markets, there are two seasons in which the importers dispose of their purchases; each season lasts about two months, the one commences in the beginning of February, the other the latter end of July. The buyers leave when the trade is over, and it is obvious they have sufficient time to make their purchases, and have them sent by *sailing*-vessels. The freight by the one is from 15*s*. to 20*s*. per ton; by the other, 7*l*. per ton; and no difference in the insurance. They always do ship their goods by *sailing*-vessels, unless they buy a few boxes of expensive new styles, which they wish to get introduced into the market before they become known; or they may send out a few boxes to complete a broken assortment, wanted for their city trade; or if we manufacturers are unable to complete our orders in time for the sailing-vessels, we are obliged to send them by the steamers, and pay the difference of freight out of our own pockets. In these various ways the cargoes of the steamers are made up. There are, however, *screw*-steamers at present sailing from Liverpool and Glasgow, and in the course of a few months there will be some sailing from Belfast. *These will become the conveyers* of the goods, and *not* the paddle-boats, which will be devoted to the *carrying of passengers alone*, for the *freight* will be little more than the *half*, the *certainty* of delivery the same, and the delay not over two or three days. In confirmation of the correctness of this view of the matter, I have this moment got a notice from Liverpool, announcing that the Cunard boats have fallen their freights 2*l*. per ton, in consequence, it is said, of the "City of Glasgow" screw-steamer being quite full.

The only difficulty the merchants of Belfast feel is in naming the exact port. Living at a distance from the west coast, we are unable to form a correct opinion upon this point. We leave the people of Galway, Bisterbuoy, and other places, to prove the fitness of their ports before your Lordship and the Commissioners. We are in favour of Galway, if the port be a good one, or can be made into a good one, because it is a central situation, and the advantages of the intercourse will radiate (if I may use the expression) over the country. We also consider it essential, that the shortest sea and land route should be chosen, so that passengers for England may easily pass over to Dublin, and those for Scotland may be able readily to come down to Belfast, and cross over by our daily steamers for Glasgow and Ardrossan; for we wish whilst asking for our just rights, to protect the interests of our neighbours.

I have, &c.,

JAS. KENNEDY.

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From "The Northern Whig."

THE TRANSATLANTIC PACKET STATION.

WE need do no more than direct the attention of our commercial readers, and of all interested in the establishment of a transatlantic packet station on the Irish coast, to the statements contained in the following letter. If our correspondent be warranted in his deductions, and we have no reason to doubt their correctness, we think he satisfactorily establishes his case—that is, if any one doubted before that from some one of our Irish ports direct packet communication should be established with America:—

To the Editor of "The Northern Whig,"

Sir,

SINCE the appearance of my last two letters, I have been called upon by many of our oldest and most experienced merchants, all of whom fully confirm the truthfulness of the statements—the correctness of the views therein expressed. Two, however, who deservedly occupy a high standing amongst our merchants, have requested me to state the saving of distance, time, and expense, that will be effected by the contemplated new route.

From Liverpool to Boston is 2,365 miles; to Halifax, 2,504 miles; to New York, 3,068 miles. From Galway to Boston is 2,580, a saving of 285 miles; to Halifax, 2,210, a saving of 294 miles; to New York, 2,783, a saving of 285 miles. The outward passage takes generally about two days more than the homeward one, which usually occupies nine and a-half days. Where the state of the weather and channel risks must be taken into consideration, it is obvious no correct calculation can be made out. If the steamer sailed, throughout, at the same rate, the proportionate saving would be about a day. I see by one of the London papers that the "Asia," which arrived early last week, came from Land's-End to Liverpool in 18 hours. In fairness, however, it should also have been stated, that the "Arctic," which arrived a few days after her, was detained by a fog in the channel, half-a-day after she was telegraphed; and it should also have been shown how long the steamers take in going from Liverpool to Land's-End, with a full supply of fuel on board. Every practical man knows that the speed of a steamer is greatly accelerated by a light cargo, and retarded by a heavy one.

I have the testimony of a very large number of American gentlemen, who cross the Atlantic four times a-year, and who assert the saving to be at least 1½ days—some say 2 days, and others state that they have been 3 days in the channel. I think, considering that the steamers are out 3 days before they get into sailing trim, 2 days' saving is a fair and moderate calculation. The passage expenses for these 2 days cost from 6*l.* to 7*l.* This sum will pay their way down here, keep them for 3 or 4 days, and land them at the manufacturing districts in England, and save the present expense and trouble they are put to in coming over here to make their purchases.

It is a great mistake, however, to suppose that many of the Western travellers have business in Liverpool. I get the Weekly List, and know the majority of them are dry goods merchants, whose correspondents reside at Manchester, Leeds, Leicester, Bradford, Sheffield, Nottingham, and in the manufacturing districts of Scotland and Ireland. To these places they at once repair; a very few stop in Liverpool; a few go to London; whilst those who are travelling for pleasure, or those who are proceeding to the Continent, naturally prefer a short route to the metropolis. The Scotch people will come down here, and cross over by our Glasgow and Ardrossan boats, a great saving to them of time and expense.

If the Western traveller has no connexion with the North of Ireland, and prefers going to England, the distance across Ireland is 103 English miles—three and a-half to four hours by a railway; about two and a-half hours by an express train. From Dublin to Holyhead requires three and a-half hours more, so that within six to eight hours after he lands he can be in Great Britain. I have been asked, will the transporting of luggage not be an annoyance? I can only reply to this, that travellers who take their luggage with them over Great Britain and the Continent cannot be much inconvenienced by taking it with them across Ireland. From what I have seen, few of them bring over their wardrobes and their contents to this country. I also know they would all be right glad to put up with the trouble.

A friend of mine asked, "Did I think people would like to send goods by railway across the country?" Being, I believe, both of Scotch descent, I asked him, in return, did not he, as well as myself, send goods to London, *viâ* Liverpool or Fleetwood, and was it not the universal practice with our linen merchants in the interior to send their goods here by railway for transhipment by the same routes? The shorter the voyage, the less stock of coals will be required, consequently there will be more room for goods. The greater the quantity of goods, the lower will be the freight; and, knowing as I do that a considerable part of the steamers' freights come from Glasgow and from Ireland (for our sewed muslins, being of small bulk and expensive, are sent in this way), I have no hesitation in saying that the expense of freight and passage from the west coast will be, from all parts of Great Britain and Ireland, one-third lower than at present. I have written to a friend in Liverpool for an estimate of the number of tons of coals and quantity of freight each steamer takes out in proportion to its registered tonnage. I expect his reply upon Wednesday or Thursday, and intend to lay before you a calculation, founded upon his statement, and the expense of railway conveyance throughout these countries.

I cannot close this letter without laying before you the evidence of the Hon. Mr. Howe, given before the Commissioners. Mr. Howe is one of the most distinguished of the Colonial Ministry; he is a gentleman of character, experience, and undoubted talents, whose statements, from his position and official situation, must have great weight with the Government and with the public:—"Mr. Howe stated that he had come from Canada to endeavour to interest the Government here in the great American railway scheme. The first results of the policy he advocated would be to secure to British subjects and British seaports the conveyance of passengers and letters between Europe and America; the next, the establishment of cheap steamers for the middle and working classes; and, thirdly, the filling up the waste lands of the Provinces with industrious and prosperous people. The territory which Great Britain owned in North America was as large as the whole United States—as large as all Europe. With noble harbours on the Atlantic and Pacific coasts—rivers and lakes of great magnitude for internal navigation—rich and extensive mines—the best fisheries in the world, and a bracing and healthy climate—there was a home and a freehold estate in that territory for every Englishman, Irishman, and Scotchman that wanted one. The best test of the resources of that country was to be found in the last five years' experience. The potato rot had been as destructive in North America as in the United Kingdom—the fly, during the same period, had wasted much of the wheat. In the mother-

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Miscellaneous Letters, Reports, &c.

country thousands had died of starvation—in the North American Provinces not one; nay, he did not believe that one man, woman, or child had, during these five years, gone without three meals a-day. England supported, last year, about 60,000 able-bodied people upon the poor rates. North America could, with a little judicious preparation, take them all; and, once removed there, after the first year, they would never know want again. It was not for him to say what port in Ireland, or elsewhere, should be selected. For purposes of emigration, various ports would be convenient—as Glasgow for Scotland; Liverpool or Southampton (or both) for England; Belfast, Cork, or Galway for Ireland. He might observe, however, that, for the transmission of letters, telegraphic messages, and commercial passengers, a great mistake would be made if the shortest route was not selected. Suppose they selected the wrong port, for a time perhaps the bounty which the Government gave of 145,000*l.* a year, might defy competition with the right one. But, remove that bounty, and he would form a Company in a week, who, if they could save ten hours in the transmission of letters, commercial passengers, and telegraphic messages, would take them all from the Government line. The experience of Nova Scotia illustrated this. The telegraphic line across that Province was in the hands of the Government. American speculators in cotton and corn would buy it at any price. Why? Because, when cotton was up a halfpenny per pound, or corn a shilling per bushel, the knowledge of the fact was worth millions of dollars to those who had but a few hours' priority of intelligence. For the same reason, business men, and business letters, will go by the shortest and best route ultimately, no matter how the members of this Commission decide."

If our Government make the transatlantic packet station in Ireland, the French foreign merchant, who deals only in French goods, and who now travels by the Havre line—the German foreign merchant, who deals only in the goods of his own country, and who now travels by Bremen, will all, no doubt, come by the short sea route. In passing over Great Britain, they are sure to look at her productions, they are likely to increase the number of her customers, and they are likely to improve her taste. I, however, advocate this measure on no narrow grounds. Nations, like individuals, are finding out that their prosperity is generally promoted by the prosperity of their neighbours. Our Government have affirmed this principle from the day that our brave and talented townsman, Sir H. Pottinger, effected his Chinese treaty, till now. One country, from its climate, soil, minerals, and habits of the people, is calculated for particular kinds of productions; another country produces different descriptions; the interchange of these commodities conduces to the welfare and comfort of all; the commercial intercourse thus created binds nations together in trustfulness, amity, and peace, and rejoices the philanthropist and the Christian in wafting to every land a knowledge of the high and holy principles of that civil and religious liberty we in this country so highly prize, so justly value.

I have been told by several of our merchants, "that our Government will do nothing; that they will not move in this matter till they are driven to it, and pioneered by American enterprise and energy." I cannot adopt that opinion—I cannot for a moment believe that the rulers of this great commercial country, the legislators of an empire upon which the sun never sets, could, by any possibility, be surpassed in prudent forethought, judgment, and sagacity.

Belfast, 6th January, 1851.

THE TRANSATLANTIC PACKET STATION.

WE perceive that there is a deputation in London, representing the commercial interests in Cork, seeking an interview with the Government. We are glad to see our southern friends bestirring themselves. A correspondent informs us that the Commissioners of the town of Ballymoney have memorialized the First Lord of the Treasury, praying that an Irish port be selected for the Transatlantic Packet Station. It remains for Belfast, so deeply interested in this question, to take some active steps in the matter. We need scarcely direct attention to the following interesting letter:—

"*To the Editor of 'The Northern Whig.'*

"SIR, "*Belfast, January* 17, 1851.

"IN my last letter I informed you, that I had written to a friend in Liverpool, for a statement of the quantity of coals used by transatlantic steamers, and the number of tons of freight they are capable of carrying. The following is his reply:—

"'MY DEAR SIR, "*Liverpool, January* 7, 1851.

"'YOUR favour of the 4th instant is to hand this morning. The coal usually put on board the Cunard and Collins's lines of steamers is about 1,000 tons in quantity for each passage; and, frequently, on arrival in port, five or ten tons are all that remain unused. The 'Arctic's' last passage had only five tons left out of 1,200 which she started with. Most of the Collins steamers carry from 400 to 600 tons goods, according to the number of passengers—the Cunard boats about the same quantity. To Liverpool the steamers bring very poor freight lists. The enclosed report gives a fair average of their cargoes:—'Niagara' (steamer, of Glasgow, 1,008 tons), J. Stone, from New York, 4th December—D. & C. Macive, 4 boxes apples: Pilkington & Co., 10 do.; Cowie, Scott, & Co., 1 box, 2 cases do; W. Page, jun., 28 barrels, 2 boxes do.; S. Sands & Co., 20 barrels do.; W. Reynolds, 4 do., 4 barrels cider; G. Redish, jun., 1 barrel apples, 5 cases books; M'Nicoll & Co., 1 barrel apples; Trimmer, 1 do.; Grange, 8 do.; Burstall, 4 do., 1 half-barrel hommy; J. Trippet, 1 barrel apples; C. Patterson, 12 do.; Rond & Odell, 5 do.; S. Brown, 3 do.; R. Hill, 40 do.; A. Taylor & Co., 5 do., 1 half-barrel cranberries; Pilkington & Wilson, 1 barrel apples; E. Higgin & Co., 1 box preserves; Edwards, Sanford, & Co., 1 box tongues; R. Carlisle & Co., 1 box steel; Rogers & Sons, 50 boxes cheese; G. Berry, 103 cases India-rubber; L. Blackstone, 99 chests tea; Astley and Williams, 5 cases cobalt; H. Green, 1 barrel buck-wheat; G. Redish, 117 barrels 75 boxes apples. Order—Cuburg-dock. Wishing you the compliments of the season,

"'I am, my dear Sir, yours very truly,

"'*James Kennedy, Esq., Belfast.*' "'JOHN TAYLOR CROOK.

"Your commercial readers will easily understand that, when 150 to 200 tons less coals will be required, more goods can be carried, the freight of which, at present price, is 7*l.* per ton. We will be able (so soon as the railroads are completed) to send out our goods by the Ulster line, and have them laid down at Galway, for 20*s.* per ton (being very little more than the cost of transit to Liver-

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pool was before the present opposition commenced); and it is expected our enterprising and talented countryman, Mr. Dargan, will soon give us a still cheaper route through Enniskillen. There are boats constantly plying between Glasgow and Dublin. The Holyhead and Chester Railway Company are, at this present moment, laying down fine goods at Holyhead as cheaply as they are laid down at Liverpool; whilst the saving of freight and insurance against channel risk will be, on the expensive articles usually carried by the steamers, 30*s.* to 40*s.* per ton—a sum sufficient, and more than sufficient, to pay the railroad charges and intermediate freights, which, of course, will be so much saved to the British manufacturer or his customers. View this measure in any way you may, I assert, that its passing will benefit Great Britain, Ireland, our extensive and highly-important colonies in British America, as well as the people of the United States, to whom we are bound by every tie that can connect nations, and who are, at present, our most valuable and profitable customers. I am in favour of Galway, if the port be a good one, or can be made into a good one at a moderate expense. It is a central situation, convenient for passengers crossing to England, convenient for buyers going through the manufacturing districts in the north; and I think the people of the south will reap more benefit than if the station were established in their own locality. It is said, the Midland Railway Company have offered to make the necessary improvements; but it should be done by the Government, as it is a national benefit; and we have, of late, helped them to lay out large sums in London, Holyhead, and Plymouth. There is a stronger reason still in favour of Galway—it is the favourite with transatlantic nations, whose people constitute the great bulk of the travellers. In justice and fairness to them, our rulers should give their wishes due consideration, and, if possible, carry them out. I am told the Glasgow Chamber of Commerce will oppose our application. This is a curious thing; for, 18 years ago, the advantages of a western station were first pointed out to me by some of her leading manufacturers, who, I believe, hold firmly by the same opinions still. This was many years before Dr. Lardner gave his scientific opinion, and long before the 'Royal William' gallantly crossed the broad Atlantic. I calculate some of the principal proprietors of the American steamers are at the bottom of this movement; but, if they 'bide a wee,' they will be getting increased dividends as proprietors in our Belfast boats. We shall send their friends and customers home to them for less than a couple of pounds, save them the passage expenses round Ireland, and a part of their railway expenses from Liverpool to Glasgow. This ought to be satisfactory to them. The Liverpool people are beginning to sound the tocsin also. It is true, the agents for the American steamers have some grounds for alarm, unless they choose to transfer branches of their establishments to 'wild Ireland.' I hope they will do so, for they are respectable and obliging gentlemen, and we have no wish to injure them. The forwarding agents need not fear; the goods sent by the steamers are only as a drop in the bucket compared with those sent by the sailing-vessels; and, when we get the buyers amongst us, we will send them such an increased quantity of linens as will make their visionary loss a handsome gain. If the proprietors of the transatlantic steamers are at the bottom of this movement also, I can tell them, as Mr. Charley told the members of our Chamber of Commerce last Wednesday, that in Ireland there are men with money, and, I will add, there are in America also men with money, who are resolved to take up the western station. They will lay on crack boats—they will have the sympathy of nine out of every ten of the travellers—they will be able to take a cheaper and more expeditious route, and there will be an opposition raised with which they cannot compete, even should the Government refuse our requests, which I hope, for their own characters, they will not do. I can scarcely believe that English merchants will oppose us, considering that from England we get our clothing, silks, woollens, hats, hosiery, cotton goods, hardware, earthenware, china, delf, glass, metals of all kinds, coals, and a large proportion of the various articles in use in our dwellings; and of the exciseable articles we consume a large proportion of the duties on which are paid in England. Surely it is not their interest to cramp the energy and prosperity of their best and most attached customers! Their true policy will be to support our application to the Government, put their steamers on the new station so soon as it is fixed upon; their berths will be filled with passengers and their holds with goods, and we shall receive all with true Irish welcome and hospitality. The parliamentary campaign will now soon open, and I hope petitions from every part of Ireland will be sent forward; I hope our representatives will, for once, forget all political differences and local prejudices, and join heartily together in strengthening the recommendation of our excellent and patriotic Lord Lieutenant, and in pressing the importance of this measure upon the attention of the Legislature; and I feel confidence in the integrity of British rulers and British senators, that they will not treat Ireland as a conquered province, but as part and parcel of this great empire.

"I am, Sir, your obedient servant,

"JAMES KENNEDY."

THE TRANSATLANTIC PACKET STATION.

To the Editor of "The Northern Whig."

Belfast, January 22, 1851.

SIR,

THE most dangerous, and certainly the most thankless, thing a man can possibly do is to give an unsolicited advice, particularly to a friend. This has turned out to be the case with yourself and your friend, "The Cork Southern Reporter," who, in his last editorial Article, deals unkindly, and, I must add, unjustly, with your reasoning and with my facts, misinterpreting the obvious meaning of your language and views with regard to the proposed transatlantic packet station. I only wish I had your Southern friend (for whom, by-the-bye, I have a sincere respect) with me on a visit through the manufacturing districts of England and Scotland, to see the hotels there filled with foreign buyers, three-fourths of whom are quite as much "bewildered" as my American friend was, equally ignorant of our productions, of our capability of manufacturing many articles made on the Continent and in Great Britain, and who will remain "bewildered" in this ignorance, so long as they have 300 miles of sea to cross in coming and going, and who, in leaving the manufacturing districts of the one country to visit the manufacturing districts of the other, must travel by land 150 to 200 miles more, losing as much time, and undergoing as much fatigue, as will take them a third part of their way home. You may depend upon it, commercial men will not travel so far on a voyage of discovery.

I can also assure "The Cork Reporter," that my "bewildered" friend is as sharp, as clever, and as clear-headed as himself. He had seen our goods in the hands of some of his neighbours at home—he wished to find out where they were to be procured—he sought for them amongst the manufacturers' commission-houses of England and Scotland, and was unable to find them out. Now, I agree with

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Miscellaneous Letters, Reports, &c.

you, Sir, that, had this gentleman landed at Galway, like every other man who is inclined to look sharply after his own interest, his first inquiry would naturally be, what are the manufactures of this country, which I, for the first time, have visited? He would have learned, that the North is a manufacturing district; thither he would have gone, and no mistake; and, once amongst us, he would have known all about our productions, or his case would have been an exception to the general rule. We push our business here, and, in confirmation of this, I beg to direct the notice of your contemporary to the Article in the last number of "The Whig," headed "Flax and Linen Factories," showing the extraordinary increase of our Irish linen trade. The views of this matter taken by your Cork friend are entirely opposed to the experience of business men. The opinion you adopted is the opinion of our Chamber of Commerce, of our merchants and manufacturers, who do not argue on mere theory, however plausible, like the Cork Committee and their advocate "The Southern Reporter."

I cannot agree with your contemporary, that we are to look to Liverpool, alone, as the terminus of the journey. In the discussion upon this question, I thought we were bound to consider how its passing would affect each and every part of England, Scotland, and Ireland, whose interests, in our opinions, are one and indivisible; and I endeavoured to show, at the meeting of our Chamber of Commerce, and in the Articles which you were so good as to insert for me, that the passing of the measure will injure no place of Great Britain, but benefit the empire at large. The views therein expressed are the views of my fellow-citizens, who, from their experience—their knowledge of commercial details—ought to be as competent judges as people who live at a distance from a manufacturing locality can possibly be.

If our friends in the South understood the matter, they would know that, out of every ten passengers, eight or nine go to Liverpool, for the best of all possible reasons—simply, because they cannot help it. They seem not to be aware that the great bulk of them are dry goods merchants, whose business lies in London, and in the manufacturing districts of England, Scotland, and Ireland. They overlook the fact, that, instead of going round Ireland, as at present, the short and quick route for England is across Ireland, by Holyhead, and thence to the manufacturing districts; and they also overlook the fact, that passengers for Scotland can come down here, and cross over from this, every night, for less money than they now pay for railroad travelling from Liverpool to Glasgow, and so save the channel delay, expense, risk, and annoyances, altogether. "The Daily News" shows that, out of every seventy-three letters received per mail, nine only are for Liverpool, thirty-four for other ports of England and Scotland, whilst there are thirty for Ireland. Although "The Reporter" says, that paper indulges "in random scribblings and absurdities," yet having some years ago complained to the Post Office authorities about the keeping back of our letters, the reply I got (and I presume it is such a one as will go down with your cotemporary) was, that "the Irish mail was the heaviest, and, therefore, was last in being sent off!"

"The Reporter" quotes the last arrival of the "Asia," sailing from Cape Clear to Liverpool in 23½ hours. This, be it remembered, was in her homeward passage, a crack trip made in propitious weather, with few goods on board, and her coals greatly reduced; but, if he looks to the log of the steamer's outgoing in the average of weather, and to their incoming during foggy and tempestuous weather, as in the case of the "Arctic," which followed the "Asia," he will be constrained to make a material addition to his estimate:—but, even taking his own estimate, I contend that almost every passenger will go by the route which saves 10 to 12 hours. This is clearly demonstrated by experience, and my statement will be borne out by the opinion of every steam-boat agent in Great Britain; for business men consider a saving, even of this time, of serious moment to them.

In the tabular statement of the financial result which the Cork Committee has published, the first item is 800 tons of coals required for the voyage, whereas the real quantity consumed is 1,000 to 1,200 tons. From Liverpool to Boston is 2,865 miles; from Galway to Boston, 2,580; so that the coals in proportion saved are double the quantity calculated by the Committee, and this is assuming that the voyage throughout is performed at the same speed, which we know is not the case. They, also, have overlooked the fact, that, the fewer coals on board, there will be the more room for goods, the freight of which from Liverpool is 7*l.* a-ton. They calculate the saving of insurances upon the vessel alone, but forget that the cargo requires to be insured also:—so I would recommend your contemporary to look a little more into the "arrant nonsense" at home, before he ventures to criticise his neighbours.

I advocate this measure, because I believe its passing will benefit the commercial interests of every part of Great Britain and Ireland, as well as of our important colonial possessions in the Western hemisphere. I am satisfied it will materially extend our manufacturing trade over the world, that it will greatly lessen the time and cost of passage and freight, and so promote the intercourse between the nations; and I also believe, that, if our trade was placed on a fair and equal footing, Ireland would cease to be the great difficulty with British statesmen. How can we be prosperous when we are removed farther from our customers than some of the Continental nations are; when our agriculturists are obliged to sell their produce from 10 to 21 per cent. less than the agriculturists of England; and when the half of our population are unemployed, who would willingly work if they could get it?

When the late Sir Robert Peel abolished the Corn Laws, he foresaw that Ireland would be more affected than England. He stated so in the House of Commons, and, by way of equivalent, charged the expense of the constabulary upon the Consolidated Fund. The crop of nearly a sixth part of the arable land in Ireland was destroyed by a visitation of Providence—a crop that produced more food than all the cereal crops united, but which cannot be depended upon again. Wheat, generally speaking, is unsuited to our light soils and humid atmosphere. Oats and barley are the only kinds of grain we can rely upon; and if any one compares the prices in this country with the prices of the same description in England, he will see there is a difference in the value in favour of the farmer in the latter country equal to 15*s.* to 20*s.* per acre—not far off the rent of the land itself—and he will also see, that the value of our live stock and of every kind of produce bears fully the same proportion. But remove the trammels off our manufacturing industry, our females will get plenty of employment at sewed muslins, and at various fancy articles made upon the Continent—our men will get enough to do in the rapid increase of our linen trade—our people will be well fed, less land will feed them from the admixture of food—our land will be better tilled—they will get work at home, instead of going as paupers to England—the tide of emigration will be stayed, and, instead of being a drain upon English charity and generosity, they will be good customers for English productions, and extensive consumers

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of exciseable articles. It is clearly the interest of Great Britain to grant our request—a request based upon the immutable principles of justice and humanity; for it is in vain for our Legislators to expect the heart to be sound when there is no healthy circulation throughout the extremities.

It is right I should inform you, that I have not a single interest in Galway, nor do I know any of the people there. I was once in the town of Galway for a few hours, ate my dinner, paid for it, and walked about the town and harbour. In Cork, I always received, on every hand, the greatest hospitality and kindness, while some of my oldest friends and correspondants reside there: my feelings are, therefore, entirely in favour of Cork; but I cannot shut my eyes to the fact, that Galway is the most central situation, the favourite with our transatlantic travellers, and the route that would confer the greatest amount of benefit upon the whole empire; and it is, therefore, the port that will be adopted, if it affords the requisite accommodation—for there are men with money in Ireland, and in America, who are resolved to lay on a line of steamers from that port, and who will carry out their determination whether or not the Government grant us justice.

I am, Sir,

Yours truly,

J. KENNEDY.

P.S.—With all respect for the opinions of your Liverpool correspondent, we know as much about the American trade in Ireland as the Liverpool people do, and we have yet to learn, that a long round-about water trip will be preferred to a short and expeditious one, by which there will be a material saving in the cost of freight and passage-money. I hope Messrs. M'Iver and Co., and their principals, will re-consider their determination, and arrange with the Government to give the new station a fair trial. We do not wish to injure or oppose them if we can avoid it; but we are in a position at present to act upon rather independent principles. Beside me is sitting a highly respectable gentleman, who advertises in your paper as a travelling agent, who goes backward and forwards from and to America every year, and whose opinion, founded upon long experience, is, that every passenger would get out at Galway in preference to proceeding to Liverpool. He says, in crossing the Atlantic, there is little sea-sickness amongst them, but that there are always a great many sea-sick in passing through our nasty jabble of a channel.

To the Right Honourable the Lords Commissioners of Her Majesty's Treasury.

The MEMORIAL of the Belfast Chamber of Commerce,

HUMBLY SHOWETH,

THAT in the opinion of this Chamber the establishment of an Irish Transatlantic Packet Station will substantially benefit Great Britain, her important colonies in the Western Hemisphere, and in an especial degree promote the commercial and manufacturing interests of this country. That by such an arrangement the merchants of this town will be placed upon a fair and proper footing, by getting their letters and remittances as soon as the British merchants receive theirs. That the sea voyage will be materially shortened, the risk of the channel passage round the coast saved, the cost of passage, freight, and insurance more than proportionably lessened; cheaper and shorter routes opened up for travellers by the steamers proceeding to and from England, Scotland, and Ireland, as well as the Continent; and that in consequence thereof the intercourse between these countries and the Western Hemisphere will be greatly increased.

That in the opinion of this Chamber the port selected should, as far as practicable, be a central one, with a railway extending from it to Dublin, so that the time and expense of travellers having business to transact may be saved as much as possible.

Memorialists also respectfully state, that our manufactures are different from those of England, consisting of linen goods, which, by judicious management, can be entirely produced in Ireland; and of sewed muslins and light textiles, the first cost of which is principally labour. That these manufactures have of late years increased with extraordinary rapidity, employing a large portion of our labouring population, and that owing to this increase Ireland at present consumes a vast quantity of English manufactures and productions, together with exciseable articles, the duties on which in the majority of instances are paid in England. Memorialists therefore submit, that the more our manufactures are extended and prosper, as a natural consequence our connexion becomes of increased importance to Great Britain.

Memorialists further observe, that the great bulk of our exported manufactures are sent to North and South America, and to the West India Colonies: and as Ireland, from its geographical position, lies in the direct pathway between these countries and Great Britain, that foreign merchants should therefore in justice have an opportunity of landing on these shores, making their purchases here, and going hence to England, instead of being, as at present, subjected to the trouble, expense, risk, and loss of time consequent on coming thence and going back again, the result of which is, that only a very few of them visit Belfast at all, thereby retarding our prosperity, neutralizing our efforts, and placing our manufactures on a most unequal and disadvantageous footing.

Memorialists may mention that they conceive the passing of this measure, by extending the commerce and promoting the manufactures of Ireland, will materially benefit the agricultural interests of this country, which at present are in a greatly depressed condition.

Memorialists therefore humbly pray, that Her Majesty's Government will take the necessary steps towards the establishment of an Irish Transatlantic Packet Station, and, by removing the present barrier to her success, and placing her on an equal standing with Great Britain, give free scope to the industry of her people and the usefulness of her merchants.

Signed by order and on behalf of the Chamber.

Chamber of Commerce, February 3, 1851.

THE TRANSATLANTIC PACKET STATION.

WE have already said so much on this subject, that we feel some share of awkwardness in returning to it again. Excuse, however, is in truth unnecessary for the iteration of even a theme so often handled. For, as it is a matter of great interest to a commercial community, so should we con-

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Miscellaneous Letters, Reports, &c.

tinually keep it before our eyes. It is only by perseverance that anything in this busy world can be attained; and, unless we make up our minds to the thirteenth effort, in every scheme we seek to compass—like the spider on Bruce's prison wall—it is thirteen to one we shall fail wherever we try our hand.

For these reasons, a matter of such importance as this packet station question should never be allowed to go out of sight. If the people do not make up their minds to agitate perseveringly for the one object, they must fail; and, really, this packet station is a thing worth agitating for—not merely because of its own intrinsic value, but because—and principally because—of the various concurrent advantages which it must bring in its train. Events are occurring round us every day, which are tending to render rapid communication between these countries and America a great necessity. We doubt not that, after the great world-show of next summer, the importance and number of these events will largely increase. When men of business from the American States will have crowded to London; when they will have been tempted to visit this country, and behold its beauties and resources yet unknown to them, we shall be much mistaken if the importance of communication between us and the Far West will not become considerably enhanced. As we write, the position of the British American colonies—their great colonizing resources—set side by side with the extraordinary circumstances, that thousands leave these countries yearly for the United States, whilst the vast and fruitful plains of Canada are neglected—rise up before our minds; and we feel that there are vast considerations connected with this matter that should not be overlooked. We may, in a future Number, devote to them some space; meanwhile, we have much pleasure in giving publicity to the following letter:—

To the Editor of "The Northern Whig."

"SIR,

"I PRESUME your readers are aware, that the Cunard transatlantic steamers generally sail through the North Channel, and that the Collins line have hitherto sailed by Cape Clear, except in one instance, when a "bewildered American found his way" to the north, and made the quickest trip any of their steamers have yet performed. In order, therefore, to show the difference between the routes, I will lay before you a statement, made up with great care by some of our oldest and most experienced shipowners, who are fully competent for the task, and which exhibits the exact sailing distances between the undermentioned ports:—

"New York	to	Liverpool, by North Channel,	3,000	nautical miles.
,,		Belfast ,,	2,880	,,
,,		Liverpool, by Cape Clear,	3,040	,,
,,		Belfast ,,	3,045	,,
,,		Queenstown ,,	2,825	,,
,,		Galway ,,	2,756	,,
Boston	to	Galway ,,	2,580	,,
Halifax	to	Galway ,,	2,210	,,

"This statement shows that Belfast is 120 miles nearer to New York than Liverpool is, and that it is only 55 miles further removed than Queenstown, so that if the Government intend to establish a port of call, or packet station, at either end of Ireland, Belfast has undoubtedly the best claim. It is true, the sea voyage will be longer by 55 miles, but the passengers will be saved the travelling by railway from south to north, and they will have no trouble in crossing hence to England and Scotland. Besides, this is the seat of the linen trade; they can do their business here, and we have an excellent harbour, every accommodation for steamers of any burthen, without additional outlay. I repeat, therefore, that if the Government intend to establish a packet station in either end of Ireland, they will make a great mistake in selecting Cork in preference to Belfast. On the other hand, Galway is nearer New York than Queenstown by 69 miles; it is nearer New York than Liverpool, 284 miles; nearer Boston, 285 miles; and nearer Halifax by 294 miles; and it might be well to examine what saving will accrue from the establishment of a packet station there.

"The Cork Committee say, that the contracted price of the Welch coal the Cunard steamers use is 21*s.* per ton; that the same coals cost, in Cork, 16*s.* per ton, free on board; and I am informed, the price at Galway, for a similar description of coal, is 1*s.* 2*d.* to 1*s.* 6*d.* higher than at Cork, which makes a saving of 3*s.* 6*d.* per ton. The quantity of coals burned per voyage, as you will see by Mr. Crook's letter, varies from 1,000 to 1200 tons (the "Arctic," on her last trip, consumed 1,230 tons before she reached Halifax). The distance between Boston and Liverpool is 2.865 miles; and the saving of distance, by stopping at Galway, is 285 miles; consequently the proportionate saving in coals, mile for mile, is 99 tons 9 cwt. 2 qrs. 3 lbs., which I take at 100 tons, for the sake of brevity in calculation. One cubic foot of coals, in a solid mass, weighs from 79 lbs. to 81 lbs. Some of our steam-boat agents say the ton of coals measures 29 to 30 feet. I calculate it at 28 feet; and, as the ton of goods measures 40 feet, it follows, that for every 100 ton of coals saved, 70 ton of goods can be taken, the freight of which, at present, is 7*l.* per ton. As I presume the port-charges from all the western and south-western ports are the same, and as I have no means of knowing this matter, I take the Cork Committee's statement as correct—that there will be a saving in these items of 157*l.* 10*s.* In addition to the saving of 2*s.* 6*d.* per cent in the insurance upon the value of the vessel, set down by the Cork Committee as worth 70,000*l.*, I add the insurance upon the cargo also, which I assume to be worth 40,000*l.* The Liverpool papers say, the expense of navigating these vessels is 30*s.* per mile; a fact confirmed by your own correspondent in 'The Whig,' of Thursday, 30th ult. The account will, therefore, stand thus:—

	£.	*s.*	*d.*
"1,000 tons of coals, which cost 3*s.* 6*d.* per ton less at Galway than at Liverpool	175	0	0
100 tons of coal, saved on account of the short sea voyage, at 21*s.* per ton	105	0	0
70 tons of goods, to replace the 100 tons of coals, at 7*l.* per ton	490	0	0
Port-charges, dues, &c., saved, as per statement of the Cork Committee	157	10	0
2*s.* 6*d.* per cent. on the value of vessel and cargo, say 110,000*l.*	137	10	0
Expense of navigating the vessel 285 miles, at 30*s.* per mile	427	10	0
	£1,492	10	0

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"This is assuming that the vessel goes at the same rate throughout, but as we know this in practice is not the case, and if she requires 50 per cent. additional time, the saving will then be 2,091*l.* 5*s.*; and if she requires double the time, the saving will be 2,690*l.* for the outward voyage, which, at 73 outward voyages per year, will amount to a matter of serious moment. The Cork Committee say, the average number of passengers is 65, for which, at 35*l.* per head, (and this is assuming them all to be first-class), and estimating the freight at 400 tons, the united amount is 5,075*l.* The 'Atlantic,' one of the largest of these vessels, and which had a cargo that the 'Cambria' could scarcely carry, was, passengers and all included, just worth 4,200*l.*, so that I think I am within the mark in saying that, from the west coast there will be a reduction of more than one-third on the cost of freight and passage. In the homeward passage there will be a less saving. There will be no reduction in the price of coals; no goods of any consequence to insure; no port-charges to avoid. This will make a difference of nearly 400*l.* to be divided between the outward and inward voyage. In the room of goods, passengers, a more profitable carriage will be taken. Besides, in the course of a few months, there will be screw-steamers from Liverpool, Glasgow, and Belfast, which as they will land their goods with as much certainty as the paddle-boats, and at nearly half the cost, it follows, that the great object of the steamers will be the carrying of passengers, the transmission of mails and telegraphic despatches; so that it behoves our Government to select the most central situation, the shortest route by sea and land, with the greatest facilities for travellers proceeding to their various destinations in England, Scotland, and Ireland. On the same principle may be estimated the saving by Cape Canso, so soon as the railway is completed, the sea distance being thereby reduced 1,036 miles—more than one-third of the entire way.

	£.	*s.*	*d.*
Saving in price upon 1,000 tons of coals, at 3*s.* 6*d.* per ton	175	0	0
One-third less coals required (333 tons), at 21*s.* per ton	349	13	0
Goods in place of coals (233 tons), at 4*l.* 13*s.* 4*d.* per ton	1,087	6	8
Saved in port-charges, &c.	157	10	0
Saved in insurance	137	10	0
Cost of navigating 1,000 miles saved, at 30*s.* per mile	1,500	0	0
	£3,406	19	8

"This will bring the rate of passage nearly as low, in proportion to the distance, by these steamers as by our channel-boats. The one class pay port-charges four to six times a-week; the other, about twice a month; the one lands and disloads two or three times a-week; the other only about once a-month; the one is the greater part of the time at sea; the other, perhaps, three-fourths of the time in harbour. The reason of the difference is obvious: our steamers of 700 tons burthen, burn, in going to Liverpool, about 25 tons of coals, and therefore can take a large quantity of goods, and a corresponding number of passengers; but the others are two-thirds or three-fourths filled with coals, and therefore, notwithstanding the enormous sum of 3,300*l.*, which they get each trip for carrying the mails, their passage-money is about treble the sum, in proportion to distance, our home-steamers charge. If, therefore, in five or six days, and at an expense of about 10*l.*, we can cross the Atlantic; instead of going to the Continent for pleasure, we will have an opportunity of seeing the Canadian Lakes, the Falls of Niagara, the Caves of Virginia, the wonders of the new world. But there are other considerations of infinitely greater importance, compared to which these sink into insignificance. In consequence of the cheap short-sea passage, travellers from the various countries of the Atlantic and Pacific will be crossing and re-crossing this country, to and from Great Britain; they will pass through our own colonies, which, in this way, will be brought as near London as Dublin used to be; they will scatter their money, and what is better still, information, and habits of industry and active energy, will be diffused. And what are our North American colonies? A territory as large as all Europe, with millions of acres of rich and fertile land, unbroken up, and tenantless. Our landed proprietors, impelled by stern necessity, unable to get their rents, in the vain hope of keeping themselves afloat, are consolidating their farms, evicting their unfortunate tenantry, filling the poorhouses of the south and west, adding burthens upon people unable to bear up against their present taxation. Surely economy and humanity direct us to send them where, in the words of the Hon. Mr. Howe, there is 'by a little judicious management, a home and plenty for all of them, and, once removed there, they will never know want again.' Our labourers, our artisans, and our farmers are emigrating in thousands and tens of thousands to the United States. Would it not be for the interest of Great Britain to induce them to go to our own colonies, to grow flax for us there, instead of importing from the Continent, and of which, from present appearance, we shall require a great additional supply, increasing the power and resources of this country, creating a sure and extensive market for our manufactures, unburthened by hostile tariffs? We are pursuing a suicidal policy, sending our people to the States, a country, even at present, rivalling us in the manufacture of cotton goods; whose people, to use the language of the American minister, Mr. Abbot Lawrence, are clothed from head to foot in home manufacture—who are busy erecting cotton-mills in the south, driven by water, wrought by slave labour—who have power-looms superior to the British; and who, to use the words of Mr. Lawrence again, will be able to show, at the great exhibition, styles and designs from which the Manchester manufacturers and printers will be able to get information and ideas.

"It now, therefore, remains to be seen, if the influence of a few interested individuals will prevail with our Government, or if they will consult the interests of the empire at large, to develop the industrial resources of this country, as well as our own most important colonies. If your opinion be correct, that 24 members of Parliament owe their seats to them, and are dependant upon their nod, voting as they are bid, I can only say, I do not envy them their honours—better to have a crust of bread, and liberty. Amongst the ministry, there is the gifted Morpeth, and many men of unblemished honour; and I cannot believe that aught will weigh with them but a desire for their country's good. It is said, the Government are under contract with the owners of the Cunard boats for 12 years; but I am informed, upon good authority, that they reserve the right of changing the station as they may think proper.

"I have, &c.,

"*Belfast, February* 19, 1851." "J. KENNEDY."

[*From "The Northern Whig."*]

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Miscellaneous Letters, Reports, &c.

Extract from a Letter from Major Robinson (Royal Engineers) on projected Railways in Nova Scotia.

During the exploring surveys made in the years 1847-1848, under my direction for lines of railway to connect the British colonies of Nova Scotia, New Brunswick, and Canada, I had occasion to make myself acquainted with many points which have now reference to the project for establishing a packet station at Whitehaven, in Nova Scotia, and a railway from thence to Boston and New York.

The European and North American Railway is a project which, as a whole, sprung into public notice and favour only during the last year, and long after my return from the exploration of a line from Halifax or Whitehaven to Quebec.

The Halifax and Quebec line having unfortunately been allowed to rest in abeyance, has tended, with other causes, to give birth to the new project of an American and European line, a project very desirable in itself if it could be executed without crippling the resources of the provinces, and diverting them from making the Quebec and Halifax line, which is of *vital* importance to the connexion of them and Canada with the mother-country.

The movement originated in Maine chiefly and Massachusetts, and was a natural sequence of the approaching completion of the lines from Portland to Bangor, and from Portland to Montreal. This latter is in rapid progress, and its completion may be looked for within this year or the next.

Bangor is now, or will soon be, connected by railway with New York, and on to New Orleans. A small addition from Bangor to Calais is wanting to complete it to the frontier of New Brunswick.

The European and North American Railway, in connexion with the transatlantic steamers, would prove a valuable addition as feeders to the lines in Maine and on to Montreal, and divert a large amount of passenger traffic from the New York and Boston routes.

A great convention was accordingly convened at Portland on the 31st July last, which was attended by delegates from New Brunswick and Nova Scotia, and also from Canada.

Some of these were the most influential men of their respective provinces, and members of the Provincial Governments.

The project, without reference to the details, met with hearty and general approval; but when it came to the course the line should take, there was no longer unanimity; and I feel quite sure that the Nova Scotians, as a body, would never give their own funds to support the line to Whitehaven.

These differences among the parties most interested would alone prevent the project from being carried out if the latter port were insisted on; but there is another most important item wanting in the two British provinces—that of funds.

The British portion would comprise about 387 miles to Whitehaven, or 330 to Halifax; the American only about 100 miles.

At the most moderate estimate the expense would be 6,000*l.* sterling per mile, that is, nearly two millions to Halifax, and more than three hundred thousand more to Whitehaven, which could only be raised by a loan upon the guarantee of the British Government,—a measure too impolitic to be sanctioned until after the completion of the line from Halifax to Quebec.

The Americans would reap the lion's share of the advantages, to the detriment of Quebec and Halifax.

I scarcely think the line could support itself and pay dividends at all equivalent to the current interest of money in their Government funds. It would be certainly a very doubtful commercial speculation.

The advantages to be obtained from it in shortening the time of communication from Europe to New York would not make a difference to mails and passengers exceeding above seven hours *viâ* Halifax, or 14 *viâ* Whitehaven, instead of two or three days, as sometimes has been assumed.

The distance from Halifax to New York by railway, supposing this project carried out, would be about 890 miles; or from Whitehaven 947. At 20 miles per hour this would give 45 or 47 hours, while the distances by sea—570 and 670 nautical miles, at 11 miles per hour—would only require 52 or 61 hours, making a difference of about seven hours *viâ* Halifax, or 14 *viâ* Whitehaven.

Only 20 miles an hour for railway travelling for mail trains seems a very slow rate, but it is founded upon the following extracts taken from an American Time-book (Doggett's) published for September, 1847, which I happen to have by me.

From New York to Boston there are four routes, all of them of a mixed nature, the first by steamer, the remainder by railway.

	Miles.		Miles.		Miles.	Hours.
The 1st.	170	by steamer to Falle River, and	53	by rail, making	223 in about	13
2nd.	126	„ to Stonington	90	„	216 from 12 to	13
3rd.	124	„ to Allyns Point	110	„	234 in about	13
4th.	78	„ to New Haven	160	„	238 „	12

In the year 1846 there was another route open, called the Long Island Route, which commenced with a steam-ferry of one mile; then 96 by railway, then 27 by steamer, and 110 by railway, making 234 miles, and the time 12 hours. This last is, I consider, the best route, but having become in some way involved, it was closed for a time in 1847. It is probably now open again.

From Boston to Portland there are two routes, one 110 miles, the other somewhat less, but commences with a steam-ferry; the time five hours for each.

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On one of these lines an express-train runs three times a week, and by not stopping at any intermediate station, performs the distance in 4½ hours.

	Mail Trains.
From Boston to Albany, 200 miles, the time is . .	10 hours.
From Albany to Buffaloe, 326 miles	22 ,,
From New York to Philadelphia, 90 miles . .	5 ,,
[Of this 20 miles is by steamer.]	
Philadelphia to Baltimore, 97 miles	6 ,,
Baltimore to Washington, 40 miles	2 ,,
Baltimore to Cumberland, 179 miles	10 ,,

These are the actual times on the journey, but the lines are not all continuous at the termini, and there is consequently time occupied in shifting from one station to another.

How far the line from Portland to Halifax or Whitehaven might for a great object be made continuous I am unable to say, but it must cross some very large rivers such as the Kennebec, Penobscot, St. Croix, and the St. John, in New Brunswick.

I think, therefore, 20 miles an hour from New York to Halifax or Whitehaven, is not too low a rate to calculate upon.

The average expense of the lines in the states of Massachusetts completed up to the year 1846, averaged very nearly 8,000*l.* sterling per mile for a single track.

In the New England States the railways are constructed in a good substantial manner, with rails not less generally than 56 lbs. to the yard running.

Iron, in America, pays a very heavy import duty, and at the time the lines in Massachusetts were chiefly made, the prices were unusually high, even in this country, caused by the great demand for railway purposes. Labour was also at that time much dearer than at present.

Taking into consideration the favourable nature of the country and the present reduced prices of all articles, I think that 6,000*l.* sterling per mile may be taken as a safe estimate for the European and North American Railway.

The first 30 miles of the railway from Montreal towards Portland, was reported by the Directors, to have cost, with plan, 6,600*l.* per mile; but as this was probably Canadian currency, it would be about 5,500*l.* sterling.

With respect to the qualities of the port near Canseau, viz., Whitehaven, from all the inquiries which we made upon the spot (it was visited by Capt. Henderson in person, and surveyed by our parties, with the assistance of a chart supplied by Admiral Beaufort), it is in every way, I should say, inferior as a harbour to that of Halifax.

It has, as a set off to many serious objections, only *one* advantage, that of being in geographical position 100 nautical miles nearer to England than Halifax.

But for this single circumstance it would never have been thought of.

Its choice involves 57 miles *extra* of railway through a difficult country, rendering a long tunnel and heavy viaduct necessary, taking off two to three hours from the extra nine which a Cunard steamer would require to reach Halifax.

It is frozen over every year to a certain extent, but not to a degree supposed to prevent a steamer entering and landing her mails and passengers.

But there are years when it is frozen over entirely, as in the case of 1846-7, mentioned by Capt. Henderson, when Halifax harbour remains open.

It is sometimes, though perhaps rarely, entirely blocked up with ice.

But every year during the spring the *approach* to it is liable to be impeded by floating fields of ice, which set off from the north coast of Cape Breton, crossing the steamer's track from Cape Race, frequently compelling them to bear off out of their direct course, even for Halifax, and pass to the south of Sable Island.

For four months during this season they are liable to this deviation of course; and in such Halifax becomes the nearest port

If a southerly wind prevail, these fields of ice are driven upon the north-east coast of Nova Scotia; the passage to Halifax is then cleared, whilst that to Whitehaven may become only the more obstructed.

Between Whitehaven and Halifax the coast is what is termed iron-bound, and there is no good harbour for the admittance of large vessels.

Immediately adjoining Whitehaven is a large and dangerous bay for vessels to get into, as described by Lieut. Shortland, R.N., who was left by Capt. Owen to make a survey and report of the capabilities of Whitehaven. His report is, I think, far from favourable to it.

Fog is as prevalent there as at Halifax, and is, I believe, common to the whole north-east coast of Nova Scotia.

Unless in connexion with a railway, Whitehaven, of course, is not to be considered even for a packet station.

Nor is it to be considered if any regard is to be paid to extra expenditure and diminished receipts.

The extra 57 miles of railway passing through a difficult and rugged country, involving some engineering difficulties, cannot be estimated at less than 8,000*l.* per mile, making a sum of 456,000*l.*

As there is not on the spot at present a single convenience of any sort, everything suitable must be provided, and not less than half a million sterling must be calculated as the price of gaining a few hours only in the despatch of mails and passengers to Canada and the United States.

Halifax and two-thirds of Nova Scotia would be placed at a corresponding disadvantage

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Miscellaneous Letters, Reports, &c.

by it, for either the steamer must afterwards proceed on to Halifax, or their letters and passengers forwarded in some other way.

It could never for a moment be expected that Nova Scotia would contribute a million sterling towards a packet station and a line of railway which would pass not within 90 miles of her capital, and out of reach of the greatest portion by far of her population.

If I am correct in the supposition that she would not contribute any of her public funds whatever to such a purpose, then the selection of Whitehaven as the packet station involves to the other parties interested the obligation of making not merely the 57 miles extra at the cost of half a million sterling, but the total distance through her territory of 181 miles, or more than a million sterling.

It is to be borne in mind that if the railway through British territory be made to Quebec, Canada will gain only seven hours, and not 14, by the adoption of the port of Whitehaven.

MAP of IRELAND, arranged by THOMAS BERMINGHAM, Esq., Justice of Peace for County Galway.

THIS map Mr. Bermingham (accompanied by Captain Richards, of the merchant service, an experienced seaman, and Mr. J. H. Alley, of the same service) was permitted to lay before his Excellency the Lord-Lieutenant, at the Viceregal Lodge, Phœnix Park, Dublin, on Thursday, the 19th of December, 1850.

At that audience Mr. Bermingham had the honour of pointing out to his Excellency the numerous advantages which Galway possesses over every other port, entitling it to be made the packet station for America. As showing its central position, the military and police barracks, the workhouses, the railways, the canals, the river and lake navigation, and the other ports are shown, so that at a glance their proximity to Galway will appear. The great saving that must be effected, if Galway be made the packet station, to the Treasury and in county rates; in the cost of the transit of troops going to and returning from the colonies; in that of the transport of convicts with their escorts; as also in that of the emigration of poor labourers and their families from the workhouses; and in the saving to emigrants from other parts of Ireland, as also to and from the other ports. The ease and cheapness with which these parties can be conveyed to Galway, by means of the railways and the internal navigation, must be at once manifest to the authorities. The great table-land of Ireland is also shown, having Dublin at one extremity and Galway at the other, spanned by the Midland Great Western Railway, without one tunnel in its entire length of 126 statute miles. Only 18 hours from London, 8 from Holyhead, and 4 from Dublin, Galway is incontestibly the fittest port for a packet station in connexion with Holyhead. The highlands, just over the bay, afford protection and shelter to troops embarking or disembarking, whilst the provisioning of them can be as cheaply, if not more cheaply, effected at Galway than at any other port; points deemed of the utmost importance in the selection of a packet station, and insisted on in the evidence of Field-Marshal the Duke of Wellington before the Committee of the House of Lords on the Western Harbours of Ireland. Whilst some millions have been expended on the Irish harbours of Howth and Kingstown, and many millions on English ports, the magnificent bay of Galway has only had a loan of 24,000*l.* for docks and quays, of which sum 4,414*l.* 9*s.* 5*d.* has been repaid by the Town Commissioners, together with 8,551*l.* 13*s.* 10*d.* interest at the rate of four per cent.; the repairs of the gates, 2,000*l.*, and other works costing 3,000*l.*, has prevented the loan being reduced still further. The following extracts from the Report of G. W. Hemans, Esq., engineer of the line, to the Directors of the Midland Great Western Railway, on the port of Galway as a packet station in connexion with America, dated last October, will show the works that alone are required to render Galway a first-rate port, capable of accommodating any number of steamers of the largest size that are ever likely to be required for a packet service. "The actual existence of very good floating docks capable of further extension, and now containing a space of about five acres, with 15 feet depth of water, and dock gates 56 feet wide. Moreover, by arrangement with the Admiralty, the railway embankment across Lough Atalia is so constructed as effectually to convert that large sea estuary, flanking the town, into a basin, which might be closed by gates under the railway bridge, and, when deepened, would afford any desirable extent of wet-deck accommodation. The railway bridge is constructed with two openings on a swivel centre; each opening is 60 feet wide, and the channel through is proposed to give 20 feet depth of water at high tides; these dimensions would admit a very large class of steamers." (Since the publication of this Report, we are informed by Mr. Hemans, that for the very moderate sum of 50,000*l.*, Lough Atalia could be converted into a very fine wet dock, with 20 or more acres of deep water.) "That the anchorage, or bolding-ground, in Galway Roads, under the lee of Mutton Island, is excellent, and a moderate expenditure would make a solid rampart from that island to the shore (to which it is connected by a dry reef at low water), and construct a pier into the sea, so as to form an extensive and commodious harbour of refuge." For the construction of the breakwater, with a spacious roadway along the top, and a parapet wall, Mr. Hemans informs us that a further sum of 50,000*l.* will, he thinks, be amply sufficient. Surely no one will deny that Galway is as justly entitled as those other ports to assistance from the public purse for works such as Mr. Hemans states are absolutely necessary,—nay, better entitled, considering the distressed circumstances of its population, consequent upon years of famine. How much more wise and economic to employ the thousands of Connaught

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labourers upon works required to make Galway an asylum harbour than leave them unemployed, a hurthen with their families on the unfortunate ratepayers; indeed, the convicts might with advantage he employed on these works also, in order to relieve the overburthened cess-payers from their support in comparative idleness in the gaols and bridewells of the province. In proof of the advantages that have arisen from the very moderate expenditure on the docks of Galway, and as an inducement to Government to do what is now required for this port, see extract from Mr. John M'Mahon's, "Vice-President of the Institution of Civil Engineers in Ireland," Report to the Drainage Commissioners on Loughs Corrib, &c., 1846. He says:—"With respect to trade, although the geographical position of the town of Galway affords it great advantages, still it requires *facilities* and extension to he given to its means of transit to develop fully all the great resources of so thriving a locality. To give the Commissioners an idea of the steady progressive improvement in its internal trade, I take leave to state that civic commissioners were appointed by Act of Parliament in this town in the year 1836; the tolls then leviable were let for three years, at 840*l.* per annum. At the expiration of the lease in 1838, they were again let for 1,710*l.* a year; and in 1844, the Commissioners being then their own collectors, the net produce paid in was 2,150*l.*, thus nearly trebling the receipts in the course of eight years. The commerce is in an equally prosperous state; it too is progressively improving, judging (with other facts) from the amount of dues collected hy the Harbour Commissioners; in 1831 these charges amounted hut to 350*l.* per annum, and in 1844 the sum collected was 1,609*l.* The host informed statists in Galway attribute this rapid and vast improvement to the facilities afforded to shipping by the construction of a most convenient floating basin, where all vessels that enter are safely water-borne at all times of tide."

The Rev. John D'Arcy has kindly furnished the following returns from the Town Commissioners, which corroborate the statement of Mr. M'Mahon:—

YEAR.	TOLLS.					
	Ingate and Outgate.			Harbour Tolls.		
	£.	*s.*	*d.*	£.	*s.*	*d.*
1841	1,688	10	0	1,300	0	0
1842	1,821	10	0	1,645	0	0
1843	1,780	0	0	1,275	0	0‡
1844	2,158	12	8	1,608	17	4
1845	2,346	9	1	1,962	9	11
1846	2,041	18	4	1,603	10	0
1847	951	17	3*	2,565	17	6
1848	933	6	6*	1,881	3	2
1849	693	18	4*	2,811	9	9
1850	1,048	15	2†	2,288	16	8
	15,414	18	0	18,942	4	4

* Defalcation owing to the famine. † Recovering from the famine.

‡ The falling off here is attributed to the state of the gates, which were under repair, and the dues were reduced in consequence.

By a Return from the Customs, we find that the Port Dues in 1836 were 32,000*l.* per annum, whilst in 1846 they had increased to 41,000*l.*

In the Foreign Trade.

	Year.	Ships.
Ships inwards in	1838	13
Ditto	1848	67
And in one year (the Famine).		144

In the Coasting Trade.

	Year.	Ships.
Ships inwards in	1838	105
Ditto	1848	154
And in one year (the Famine)		173
Ships outwards in	1838	30
Ditto	1848	135
And in one year (the Famine).		177

Ships belonging to the Port.	Ships.	Tons.
In the year 1838.	14	1,495
Ditto 1848.	20	3,894

This shows Galway to be a most rising port, and worth attending to. From time to time considerable sums have been advanced by the Treasury for the improvement of the River Shannon (half of which advance has been repaid by the counties); for the improvement of the Western Lakes (to be repaid by the proprietors in part); and for the completion of the railway from Dublin to Galway, secured by the Company, and counter-secured by the baronies through which the extension of the line passes. It must evidently then he the interest of the country at large (tax-payers especially) that every facility be

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Miscellaneous Letters, Reports, &c.

given for the improvement of this port, so as to ensure not only the repayment of these considerable advances, but also to enable this neglected (because remote) district to contribute its quota to the national resources, instead of being a clog on the industry of the empire at large. To make Galway a "packet station" will be the sure remedy for all the evils consequent on years of neglect and mismanagement. The much-lamented Sir Robert Peel, in almost his last speech, pointed to Galway as an important district, and reminded Parliament of the escapes of 1798 (when the enemy fortunately failed in effecting a landing at Bantry Bay, and were repulsed after landing at Killala Bay), and warned the Legislature of the danger of neglecting this vulnerable coast. The opinions of so distinguished a statesman ought not to be disregarded. Let not Government then allow this favourable opportunity to go by, when it can with so much ease make itself master of the key of the great central western port of Ireland—Galway. Should Great Britain unfortunately become embroiled in war, her fleets can ride in safety (as did the East India fleet in 1795) under Black Head, and find shelter in this noble bay, out of the reach of all hostile privateers, and from whence (should an enemy even effect a landing at Killala, Bantry, or any other bay, troops (and marines, upon an emergency) could be despatched at a moment's notice to repel any attack, whether from the right, the left, or the centre; and from whence the fleet of Great Britain at anchor here could proceed to the aid of any port which the enemy might be daring enough to attack: advantages which no other port can afford (to such an extent, certainly) and therefore justly entitle Galway to be the "packet station" for America."

PLAN for Establishing a CENTRAL WESTERN PACKET STATION at the Port of GALWAY, on IRELAND'S WESTERN COAST, thereby completing the Steam Communication from LONDON and from ST. PETERSBURGH, across the BRITISH ISLES, to HALIFAX, BOSTON, and NEW YORK, the Longest and Straightest ever made or contemplated in the World.

THE advantages of Galway as a packet and commercial station, in preference to any other on the west coast of Ireland, are manifold and unspeakable, and would richly reward those first in the field of enterprise. There lately appeared in "The Illustrated London News" a map and explanatory statement of the ports of Great Grimsby and New Holland, with a drawing of the ferry across the Humber to Hull, and the lines of railway from those ports, having Sheffield and Lincoln as centres, radiating to all parts of England and Scotland, terminating at the port of Holyhead. The advantages of these lines of railway across England to the whole of the north of Europe, both as to passengers and to the transfer of merchandise to and from the manufacturing districts of the United Kingdom, are incalculable. The above map shows the line of steam communication from London and from St. Petersburgh (by Lubeck and Hull) to Holyhead, then by railway to Galway (the line will be completed in the course of the present year), at which port it is proposed to establish a line of first-class steamers, then to Halifax, or perhaps to Whitehaven, or Cape Canso, 150 miles nearer; and when the railway, now in contemplation by the Governments of the United States, and of our North American Provinces, shall be constructed from these ports to Waterville, State of Maine, then by railway all the way to Boston and New York:—Thus (and at no distant day either) bringing London within 7 or 8 days (6 by telegraph), and St. Petersburgh within 15 days (for passengers) of New York. An achievement quite easy of accomplishment, and certainly unrivalled in the annals of commerce.

THOMAS BERMINGHAM, J.P,

Late Chairman of the General Irish Railway Committee, and author of "The Good of England and Ireland Identified" "Statistical Evidence in favour of State Railways in Ireland," "Letter to Lord John Russell on the Duties of Resident Irish Landlords," "The Thames, the Shannon, and the St. Lawrence, or the Good of Great Britain, Ireland, and North America, Identified and Promoted," and other works having in view the development of the numerous resources of Ireland (in conjunction with those of the sister country), and the social and moral improvement of the people of Ireland, by procuring profitable labour, the great desideratum at present for the amelioration of the population of that fine, but hitherto neglected portion of the British Empire.

MY LORD,

March 17, 1851.

BELIEVING it extremely probable that from Berehaven but few communications have reached your hands, as a resident ratepayer, and possessing no other interest in the neighbourhood, I take the liberty of addressing the inclosed few observations on that port, and its claims to your Lordship.

I have, &c.,

ANDREW O'KEEFFE, *Ulusker, Castletown, Berehaven, Ireland.*

The Lord Hobart.

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Berehaven, as the *cis*-Atlantic ocean terminus, or junction of land and sea-lines of communication, offers the following advantages:—

1. *The shortest sea-passage.*—The late Captain Wolfe, R.N., superintendent of the Marine Trigonometrical Survey of the Irish Coast, in a letter to Admiral Beaufort (2nd Report, Tidal Harbour Commission), indicates "the coast from the Foze to the Bull Rock of Dursey Island as the salient points" of our Atlantic sea-board, and notices "the usual practice of American steamers to make this shore." The line of coast here marked off presents two basins of some celebrity—Valentia and Berehaven—the former inside the Foze, and latter (40′ long. west of Galway) indicated by the Bull Rock.

2. "*Naturam furcâ expelles tamen usque recurret*"—In depth, capacity, shelter, accessibility in all weather, and holding-ground, is Berehaven confessedly the finest harbour we possess on the Atlantic.

3. *As a Port of Call*, undoubtedly we present claims to the particular attention of your Commission, being, in fact, situate at the very turning point of our present steam line.

4. *In the saving of Time*—Table as furnished Lord Monteagle: we complain of the probability of a lighter class of vessels working the Irish station being apparently unconsidered, while the completion of the submarine lines of telegraph puts the short sea-line in a prominent place.

5. *Passenger Traffic.*—After the experiences of the past winter, the "America's" trip ashore at midnight, under Galley Head; the entire knocking up of the Collins's line, coals having failed the *prolonged* voyage, apart from unconsidered trifles—such facts must carry birds of passage to the safer road.

Were the Commission to regard the probable necessity of fortifying the proposed centre of trade—perhaps even of raising a naval Atlantic arsenal there—Berehaven alone presents a sufficient capacity for both services; while the lines of defence put up after the 1796 attempt at invasion, and the great facilities presented for a larger plan, are important *desiderata*.

ANDREW O'KEEFFE.

Ulusker, Castletown, Berehaven, March 17, 1851.

Senior United Service Club,
Wednesday, March 19, 1851.

MY LORD,

WITH reference to the Transatlantic Packet Station, I have to request that your Lordship will communicate to the Commissioners that I have this day made inquiries from a very distinguished and experienced officer, Commodore Bruce, as to his recollection of the Bay of Galway, and the coast of Ireland generally, during the time of his service there in command of the "Sappho" sloop of war. He informs me that he found safe anchorage under Mutton Island, within about half a mile of the landing-place at the town.

That according to his own observation, and the testimony of others, the wind never blew home up the Bay of Galway. That his objection to the bay was (one not applicable to a steamer), the long beat down the bay, in a westerly wind, to clear the Arran Islands.

That his recollection of the weather on the west coast of Ireland in the winter corresponds exactly with that which is already in evidence before the Commission, namely, a succession of short severe storms from the S.W. (accompanied with a heavy but not an unsafe sea), clearing up after short intervals, and not obstructing navigation in the way that the long-continued thick weather in the Bay of Biscay and English Channel might operate. There are various other matters communicated to me by Commodore Bruce favourable to Galway, but he is unwilling that I should quote him upon any point of which he has not a clear recollection and personal knowledge. I, therefore, confine myself to the above. He is in London, if it be thought desirable to call him before the Commissioners; but in the probability that they may not think it necessary to further overload their evidence by additional oral testimony, I consider these statements of sufficient importance to submit them to your Lordship and the gentlemen of the Commission.

I have, &c.,

The Right Hon. Lord Hobart,
&c. &c.

HERCULES ROBINSON,
Rear Admiral.

P.S. That there should be no mistake as to what I have stated, I have referred this letter to Commodore Bruce, who tells me it conveys his statements and meaning.

MY LORD,

Dublin, March 20, 1851.

WITH reference to the "extract" which you were so good as to send me from the evidence of a naval man, who stated to the Commissioners "that several wrecks had taken place in the winter of 1847, at Valentia, of vessels seeking to enter the harbour in the night time," I beg to enclose you a declaration taken before a magistrate of three persons of respectability resident there at that time, expressly contradicting that part of the statement; but in order that there should not be any misapprehension or appearance of disguise, I have begged of my brother to procure for me a particular statement of every casualty to vessels that has taken place at or about Valentia of late years, and I now beg to enclose such a statement for the last 10 years, signed by him and three other inhabitants, which I am quite sure will be

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Miscellaneous Letters, Reports, &c.

found rigidly and scrupulously correct; and I have no doubt the Commissioners will be of opinion that it is substantially a complete refutation of the entire statement made by the abovementioned party. For, when it is considered that the majority of vessels seeking Valentia do not go there for ordinary commercial purposes when they could in some measure choose their own time, but generally use it as a harbour of refuge, approaching it under adverse circumstances, frequently in a disabled state, the number of casualties here detailed will appear very small as compared with other ports, and that in almost every one of the cases here reported there is enough known and here stated to account for the casualty without any imputation attaching to the harbour, it being too much to expect that a harbour should be like the padded walls of a lunatic cell, so safe as to render it impossible for a vessel in a disabled state, or with a commander bent on wrecking her, or grossly ignorant of the locality, and the ordinary directions of the chart, to meet with destruction.

I trust that this statement and the accompanying document may appear in connexion with the evidence to which it refers.

I have, &c.,

Lord Hobart, &c. &c.

P. FITZGERALD,
Knight of Kerry.

County of Kerry, to wit. } WE, Denis de Courcy, coast-guard; William Belford, constable; and James Brock, pilot, all of Valentia, in said county, do solemnly and sincerely declare that we are not cognizant of any vessel or vessels having been lost in the winter of 1847 in attempting to make the harbour of Valentia at night; that any statement made to the contrary by any person would be, in our opinion, a false statement, as we were stationed or resident here at Valentia during the entire of the said winter of 1847; and, from the nature of our duties and employment, we are certain no wrecks could have occurred under such circumstances without our knowledge, or without our having received information thereof. And we make this solemn declaration conscientiously believing the same to be true, and by virtue of the provisions of an Act made and passed in the 5th and 6th years of the reign of his late Majesty, intituled an Act for the abolition of oaths in various departments of the State, and substituting declarations in lieu thereof. This declaration, made and subscribed before me at Valentia, this 17th day of March, 1851.

S. FITZGERALD, *J. P. County of Kerry.*

DENIS DE COURCY,
WM. BELFORD.
JAMES BROCK.

STATEMENT and Remarks in reference to any Wrecks or Casualties of Vessels that occurred since the Year 1841, at or near the three entrances of Valeutia Harbour, or in the Harbour, of Vessels coming in or leaving the Port.

September, 1845.—The "Penquit," small smack—cargo, corn; came ashore near Ballycarbery beach; she remained there for some days, and then broke up. Crew landed safe.

Remarks. The captain refused a pilot; ran the vessel up Lough Kay at night. When asked why he did not anchor, stated that he missed stays, and fell ashore. From various circumstances strong suspicion was entertained that this smack was wilfully lost. The cargo was mostly saved. The crew landed safe.

October, 1846.—The "William," brig; cargo, provisions.

Remarks. From the pieces of wreck picked up near the north-west entrance of harbour on the morning of the 19th October, it was considered that the loss of this vessel occurred on the night of the 18th; but as she was not observed the day before (with one exception stated hereafter) by any person on land, and as there were no survivors of the crew, it is of course impossible to give any exact statement of how and where she was wrecked. Every inquiry was made, and it appeared that the captain was a man of notoriously intemperate habits; that it was believed that he sailed from the Shannon, being in a state of intoxication. From the appearance of the stern-post, competent judges were of opinion that her rudder must have been (previous to the wreck) in a totally or partially useless condition. A man ashore, on the day of the 18th, observed a brig answering her description in Dingle Bay; she appeared to him to be in difficulty.

December, 1847.—The "Janet," small sloop; cargo, India corn.

According to the master's statement, and from the observations of lookers on ashore, it appears that early in the morning, wind strong at S.W., after passing through the N.W. entrance the fore-halliard was carried away, which caused the smack to miss stays, and she fell ashore on "Gage's Point." She was left there about six weeks, and afterwards broke up. Cargo saved, and crew, consisting of two infirm men and a boy, landed safe.

1847.—The "Alabama," brig; cargo, deals.

The captain refused a competent pilot who tendered his services; employed as such a mere boy, who was perfectly incompetent to pilot in any place. The vessel was run up "Lough Kay," and having lost the anchors, the safe anchorage on the south side of Lamb Island could not be availed of. She might, under the guidance of any proper pilot, have easily and safely run up the channel, which vessels bound for Caherciveen usually use, but the captain preferred running her ashore on the "White Strand," on the N.E. side of Begnis Island. All

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the crew landed safe. She was got off with no damage beyond a piece broken off her fore-foot.

January, 1849.—The "Alexander," schooner; cargo, Indian corn.

The statement of the master was to the effect that "he ran in at night through N.W. entrance, wind W.S.W., blowing strong; that she carried away her main gaff; that he tried to anchor near the Perch Rock, but that before the second anchor was out his cable parted, and that he ran her ashore in a bite on the west side of Begnis." All the crew landed safe, and cargo mostly saved.

Remarks. She remained on the beach for some days; a competent party offered to get her off for 10*l.*, which was refused. She afterwards broke up. A very general opinion prevailed that this schooner was wilfully lost. Without entering into detail, it is evident that the rational course would have been when the vessel had arrived so far (passed the entrance) to have proceeded to the regular anchorage. A glance at the chart of the harbour, and the point the wind was at the time being known (W.S.W.), will show the correctness of this remark.

January 5, 1851.—"Mary," hooker.

On leaving the harbour in the daytime by N.W. entrance, in consequence of the utter incompetency of her crew (a few boys), she missed stays, and was lost on the south side, near the lighthouse. Her crew, when she was still in mid-channel (weather very moderate), got into their boat and deserted her.

We have mentioned all the wrecks or casualties to vessels that have occurred either at any of the entrances of, or near to, or in the harbour of Valentia, from the year 1841 to the present date, viz., 17th March, 1851.

S. Fitzgerald, *J. P.*, *Valentia.*

Wm. Belford, *C. P.*
Denis De Courcy, *Chief Boatman.*
James Connell, *Pilot*, *Valentia.*

Office of Public Works,
Dublin, March 24, 1851.

My Lord,

Upon my return to Ireland I received the enclosed letter from a member of an extensive firm established in Dublin for executing iron and mechanical engineering works, and as it practically and in my opinion importantly illustrates a part of my evidence by proving the existence of adequate means to repair and receive steamers at Galway, I have the honour to request that you will be good enough to lay it before the Transatlantic Packet Station Commissioners, who will probably consider the information contained in it of sufficient importance to publish it with the Evidence in the Appendix to their Report.

I have, &c.,

Lord Hobart,
&c. &c.

Wm. T. Mulvany.

Dublin, March 17, 1851.

Dear Sir,

Some recent conversation as to the proposed transatlantic station at Galway, in which the question of what means existed, or would with certainty and facility be provided, to enable the hulls and machinery of the large class of steamers used in ocean navigation to be repaired on the west coast of Ireland was started, and my having seen the name of our firm mentioned in a Dublin newspaper, in a letter addressed to the editor, on the subject of a Galway packet station, both induce me, as one of those anxious to promote that object, to thus address a few observations to you on this part of the subject.

I would then make some remarks—first, on the sort of repairs demanded by such ocean steamers; second, on the means of making as ordinarily adopted; third, on the means for this that already exist in Ireland, and on their further extension.

You are no doubt aware that all well-found steamers of the larger class carry in duplicate several of the most important parts of the engines liable to fracture, or other like damage at sea, viz., spare piston-rod, side-rod, cross-head and tails, air-pump-rod, and occasionally air-pump bucket. Amongst these are found the parts most usually damaged by accident or rough usage in a sea-way. Many minor parts are also carried in duplicate. All these are, therefore, out of danger as regards the present question.

Then as respects the class of repairs that belong to the common routine of wear and tear—these are new brass bearings to larger and smaller journals; occasional turning over of rods; new or partly new piston-rings; new facing of valves and clacks; restoration of copper pipes or flanges, worn or eaten through; grinding or repairing sea-cocks or valves, brine-pumps, &c., all as respects the engines. As respects the boilers—new fire-bars; new fire-doors; occasional new plates in the fire-places or ash-pits; new tubes, or an odd patch on fine-plates, and so forth; and, lastly, as regards the paddle-wheels, new float-boards, new bolts and nuts for securing them, and keying up or re-rivetting up arms, rings, or boxes on the shafts.

To another class belongs the results of those rare and serious accidents, such as occurred recently to the American packet that put back into Cork with her crank-shaft broken. A sudden fracture of shaft, crank, or crank-pin, or of cross-head or piston-rod, may involve serious consequential damages, such as fractured cylinder-bottom or top, or even destruction of many

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Miscellaneous Letters, Reports, &c.

other parts of one engine. As regards the hull of the ship, without entering into ship-building questions, or the ordinary requirements of coppering or cleaning, it is a rare thing once the engines were bolted down to the keelsons, for any necessity to arise for bringing a steamer into graving-dock or on to a slip; boilers are best put in and out with the ship afloat alongside a quay, provided with a proper crane or shears.

Now, as to the means indispensably necessary for executing the repairs which I have above classified, it may seem, at first sight, that to repair damage to these large engines as full and as complete and large a supply of tools and machinery must be at hand as were demanded originally to make them. This is not the fact, however; you are aware, I presume, that the heavy forgings from which, under the name of "uses," the shafts, cranks, cross-heads and tails, piston and side-rods, &c., are made, are not forged at the works of the engine-makers, but at large hammer-mills, of which but a very few exist in Great Britain, as at Liverpool and Newcastle, Bolton, Glasgow, Dundee, &c., and which supply all the world nearly with heavy forgings; the forging of these, the casting of bed-plates and condensors together, and of cylinders, and the boring of the latter, constitute the largest and most difficult operations of marine engine-making, and for these the heaviest and most valuable tools are needed; but none of these are required for repairs in one case out of five thousand, except the supply of heavy forgings, and in this respect, provided there be ready and rapid carriage by rail or steamer, one port or position is as good as another, for all parties deal with the same makers, and a broken shaft or crank could be replaced to a vessel at Galway quite as easily and certainty by forgings got from England or Scotland, and finished at Galway, as if the ship were at the nearest port to the hammer-mill. You will see, therefore, how groundless the alleged necessity must have been recently for bringing round to Scotland the American packet from Cork to put in a new crank-shaft, provided there be tools in Cork to finish the shaft there, of which I am myself not informed. I believe the fact was a strong *indisposition* to leave the ship there for repair.

The plant of tools then demanded for replacing even a broken crank-shaft is not formidable, much less those for executing those repairs which I have described as those of routine from ordinary wear and tear, a good blacksmith's shop, with fan-blast and heavy hearths, capable of welding a rod of 6 or 8 inches diameter.

Shearing and punching machinery for a moderate corps of boiler-makers, one heavy substantial lathe, an equally large and substantial planing-engine, a corresponding slotting-machine, and a few smaller tools of each of these classes, and of some others well known, such as joint-shaping and screwing-machinery, all driven by one engine of, say 10-horse power, constitute the whole plant necessary for almost every conceivable repair.

In addition, a small brass-foundry may be useful, but as spare brasses should always be kept in stock, and hence can never be wanting when required, this may be omitted.

Castings in iron, except the greater ones, of bed-plates or cylinders, can always be had by sending patterns to the nearest foundry. There is neither mystery nor difficulty about them, and the want of those greater castings for repairs is so remote a contingency, as I have already remarked, that it may be left out of view altogether.

Southampton is a port quite as much out of *the way* of large engine-making establishments as Galway is, yet there is no great factory there for the repair of the Peninsular and Oriental Company's ships, the work for which is principally done in London—I believe by Messrs. Miller and Ravenhill; and so it would be were Galway the transatlantic port, a very moderate establishment on the spot for repair, and the more important ones executed by contract in Dublin, then reduced to a few hours' distance. Simple and obvious as are the requisite means in plant for executing such repairs, however, I think it most probable, from the ignorance that exists in Ireland generally as to what can and what cannot be done in the country; and from the marvellous tendency that all classes here have ever shown to employ any industry but their own, that it may be very generally believed at this moment that these few and simple means do not exist in Ireland.

I shall best answer this by stating what our own firm have the means of doing at this moment, premising that I believe Messrs. Coates and Young, of Belfast, possess larger tools even than we do. Messrs. McCoy and Grendon are well supplied at Drogheda, and at Waterford and Cork there are similar establishments. Nearly fifteen years ago, after the partial wreck of the "Royal Tar" steamer, on the Arklow Bank, we reconstructed her engines, with cylinders between 60 and 70 inches diameter, and which continued to cross and recross the Bay of Biscay for many years on the Peninsular and Oriental station without failure or accident. Since that time our works and tools have largely increased in magnitude, and we should now not hesitate to construct marine engines of 85-inch cylinders, if any of our mis-called Irish steam companies could be persuaded to permit us the opportunity.

We are at present making castings every third day, requiring the melting and handling of 13 tons of fluid iron. We can surface turn up to 30 feet diameter. Our heaviest lathe will take in about 6 feet diameter by 30 feet in length, and we can plane an equal length. And we would be quite prepared still further to increase our plant were there a prospect of profitable employment for it in marine engine-making. Ten or twelve years ago there was not a single planing-machine in the marine engine-shops at Glasgow or Greenock, yet even then the intelligence and thrifty spirit of the Scotch to keep whatever work may come amongst themselves had so encouraged engine-making, that it showed the embryo of that great trade which has now grown up in the Clyde; and a similar result might have been achieved in the port of Dublin (according to the measure of its trade) if the steam companies here, the City of Dublin Company, the British and Irish, and the Glasgow and Dublin, had done their duty by the country from which they take their titles and draw nearly the whole of their revenues. Few ports of the empire own so large a steam marine as Dublin, yet for a quarter of a century since the

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infancy of steam navigation these companies, spending annually many thousands in new engines and in repairs, have systematically excluded the factories of Dublin of any share of their work. For years the City of Dublin Company maintained a costly repairing establishment in Liverpool which might quite as well have existed in Dublin. At last one of these companies built a repairing establishment for itself in Dublin, and actually contracted for repairs of the vessels of some of the other companies, thus entering into competition with those private engineering concerns whom they neglected before to employ while getting their repairs executed in Liverpool and Glasgow. In the only two or three cases in which any one of these companies permitted new engines of late years to be contracted for in Dublin, it was, after an unfair and grinding competition, that left the maker probably at a loss; if, in place of such penalties upon engineering skill and enterprise here, the repairs *alone* of the Dublin Steam Company's vessels had been left in Dublin, and paid for *only as well* as at Liverpool and Glasgow prices, under such encouragement marine engine-making would now be a flourishing trade here, and our port be resorted to, not only for putting in the engines but for building steam vessels, and so at the present hour there would be no room for doubt as to whether or not it were possible in all Ireland to execute the common run of repairs of an ocean steam-ship.

This is not the place, however, to enter more fully upon this topic, which I only notice as explaining why marine engine-making has had no extension for 15 years past in Dublin, and thus rebutting by anticipation the statement I have too often heard made by Irishmen, that either want of coal, or want of something or other precluded the possibility of constructing steam ships or their engines in Ireland. I am bold to say it lies alone in the want of courage and disposition on the part of steam-ship owners to ascertain and avail themselves of the talent, capabilities, and capital that even still exist in the country.

I pray you accept my apology for thus lengthily trespassing on your time and attention; had I more time at my own command I could have written more briefly; I was anxious, however, to remove a baseless objection to Ireland as an American point of departure, which I understand has been put forward in the highest quarters, and which silly and unsubstantial as it is, yet is of such a character as not to be easily seen through and refuted except by a practical mechanical engineer.

I have, &c.,

ROBERT MALLET.

W. T. Mulvany, Esq.,
Office of Public Works, Dublin.

MY LORD, *Tralee, March* 24, 1851.

I HAVE again to trouble you with a certificate signed by the agent for Lloyd's and two magistrates residing at or near Valentia, in refutation of the evidence given before the Commissioners as to wrecks at Valentia, referred to in my last letter, dated 20th March.

I have, &c.,

P. FITZGERALD,
Knight of Kerry.

Lord Hobart,
&c. &c.

The following statements, having reference to Valentia harbour, have been handed to us:—

> "Several vessels have been lost in taking the harbour at night. I learnt, during my stay there, that two vessels were lost in the winter of 1847, and all hands perished in attempting to enter the harbour at night, and several vessels have been lost in attempting its entrance in the daytime."

We, the undersigned, have resided in the immediate vicinity of Valentia harbour for several years, and we are cognizant of any casualties, and the particulars attending same, that have occurred at or near the three entrances of the harbour, or in the harbour, during the period from January 1841 to this date (19th March, 1851).

We have also perused and fully concur in the accuracy of a list and remarks having reference to the same subject and period, signed by—

S. FITZGERALD, Esq., *of Valentia.*
DANIEL DE COURCEY, *Coast Guard, stationed at Valentia.*
WM. BELFORD, *Constable, stationed at Valentia.*
TIMOTHY CONNELL, *Pilot, Valentia.*

And further, from our own knowledge, and an experience extending over a period of several years prior to that year, 1841, and having examined various respectable persons competent to give information on the subject referred to, and which persons have been resident at Valentia, or in the vicinity of the harbour, for periods varying from 30 to 60 years; and we hereby declare the following portions of the above-written statements or assertions (taking the words used therein in their accustomed sense and meaning) are utterly false,—

> "Several vessels have been lost in taking the harbour at night, and several vessels have been lost in attempting its entrance in the daytime."

And with regard to the remaining portion of said statement, wherein the stater mention

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Miscellaneous Letters, Reports, &c.

that "he learned that two vessels were lost in the winter of 1847, and that all hands perished in attempting to take the harbour at night," we further declare that such alleged information is entirely without foundation.

DANIEL MAHONY, *Agent for Lloyd's.*
S. FITZGERALD, *J. P., County of Kerry.*
JAMES BARRY, *J. P., County of Kerry.*

Valentia, March 19, 1851.

EXTRACT from the SAILING DIRECTIONS for the LOWER SHANNON, by Commander JAMES WOLFE, R.N., printed for the Hydrographer's Office, Admiralty, 1850.

NINE miles above Tarbert Road, on the south shore, is the Island of Foynes, three-quarters of a mile each way, and rising towards the centre to a height of 200 feet. To the S.W. it approaches the main, which is here high and bold, within 200 yards; and to the S. and S.E. is a well-sheltered harbour, capable of containing many vessels, in depths from 3 to 6 fathoms; stiff muddy bottom. At present it is seldom used, but there is no place on the Shannon so well adapted for the site of a commercial town; while on the island there are already natural docks, requiring but little assistance from art.

Great improvements are being carried out at this place, through the public spirit and personal exertions of the proprietor, the expenses of which are to be borne in equal proportions by him and by the Government. A harbour, covering an area of 10,000 square yards, is being executed, which will be protected from northerly winds by a breakwater, and from the eastward by a pier, already so far completed as to afford shelter to a slip which has been laid down.

From the N.W. the entrance is quite clear and deep; the leading mark for the fair way is the high-water line of Barneen Point, in one with Durnish farm-house, S.E. ¼ E.; but from the N.E. it is more intricate and shallow, as between the N. point of Foynes and the N. point of Auchinish Island there is a flat bar of sand, with only 7 feet of water at low-water springs. There are also, in this passage, several patches of rocks, which would require to be marked off with buoys or beacons.

The usual stoppage-place for tide-bound vessels is to the N.E. of Foynes Island, on a bank of stiff muddy sand, good holding-ground, where you may choose your depth from 2½ to 5 or 6 fathoms or more, out of the tide, the strength of which sets along the N. shore.

MY LORD, *Harbour Office, Limerick, March* 29, 1851.

IN the course of my examination, relative to the harbour of Foynes, before the Commissioners of Inquiry upon Transatlantic Communication, a question was put to me by Sir James Gordon, to which I did not at the time attach any importance, because it appeared to me to be totally irrelevant to any practical bearing upon the subject.

Upon reconsideration, I am extremely desirous that every seeming objection should be removed, and that the harbour, resting upon its merits for practical working, should receive its proper testimonials of fitness and usefulness.

The question referred to was this:—"Blowing a gale with the wind right into the harbour, and a flood tide with a dark night, how would you get one of these large steam-ships alongside the wharf or pier?"

Reply—"I cannot see any difficulty in this; because the pier-head lies parallel to the course of the channel; but if necessary, I could swing her at the mooring-buoy placed in the centre of the channel, where a boat with lights would be in attendance." To this Sir James objected that there was not sufficient room for her swinging, and that she would touch the ground abaft.

Since my return I have made a sketch of the harbour upon a large scale, and have marked out the necessary improvements which I consider would make it complete for all practical purposes; and your Lordship will see that instead of extending the pier further out into the river, I have substituted two large hulks, each capable of containing 1,000 tons of coal. These would always form a depôt supply for the use of the packets to be regularly kept up, and would also have the effect of keeping the packet out into deep water.

Your Lordship will see that I propose extending the pier-head in the shape of a T, the expense whereof would be a mere trifle, and the river front would then show a face of 160 feet in length. This, with the four dolphins and mooring-buoy, and the necessary shedding, is all that would be required for putting the place in efficient working order. I have taken the liberty of thus addressing your Lordship, under the hope that you may be able to induce the Commissioners to receive these explanations as an appendix to my former testimony; but even if that be refused, I feel quite sure your Lordship will willingly receive for your own information and gratification any suggestions that can be fairly brought to bear upon a matter of such vast importance to Ireland.

I have, &c.,
WILLIAM RANDALL,
Harbour Master.

The Right Hon. Lord Monteagle.

P.S.—Sketch and plan sent by railway.

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GENTLEMEN, *Mount Trenchard, Foynes, November* 8, 1846.

I TAKE the liberty of bringing under your consideration a question which connects itself with the functions which you discharge so honourably to yourself and usefully to the country, in lighting the coasts and navigations of Ireland. In order to make the question intelligible to your Board, I fear I must go into some detail, for which I beg your indulgence. Under the provisions of the 2nd and 3rd Victoria, ch. 61, the formation of a pier and harbour at Foynes in the River Shannon was determined on at the joint expense of the Treasury and of myself, as proprietor of the soil. This work is now undertaken with the approval of the Treasury, and after the inspection of Mr. Walker, engineer to the Admiralty.

These works originated in a letter addressed to Lord Henley by Sir John Burgoyne, appointed on a special commission by the Government to report on the River Shannon; that latter is dated 28th May, 1832, and, in reference to the site of the proposed harbour, the Commissioners state, after alluding to the difficulties of navigating certain parts of the Lower Shannon, "Had the port been established at Foynes, all these principal advantages would have disappeared, the interior system of communication would have begun from thence, and few trading ports would have possessed so many advantages."

This opinion had the support of the previous judgment of Captain Mudge, the Admiralty surveyor, who on the 2nd January, 1832, had reported on the subject of the Lower Shannon. I think the neighbourhood of Grass Island capable of being made a very good port; but looking at the question in all its bearings, I should be more inclined to suggest to your notice the island and vicinity of Foynes. I think that place affords great advantages for constructing both docks and quays, and, moreover, has a secure anchorage for any number of shipping. On the south-east of Foynes would be the most eligible, and the quarries are close at hand. Why I prefer Foynes is, from its lying in dead water, and having wide navigation to the very anchorage, and would admit an unlimited number of ships of all descriptions. The whole evidence was summed up in a Report, dated 5th December, 1837, signed by Major-General Sir John Burgoyne, R.E., Lieut.-Colonel Jones, R.E., Richard Griffith, William Cubitt, and J. Rhodes, Esqrs. In this document (printed by order of the House of Commons) it is stated, that the harbour of Foynes on the south side of the Shannon is situated 10 miles to the east of Tarbert. This place affords excellent shelter from all winds, being protected from the south and west by high lands adjoining the river, and from the north and north-east by Foynes Island: the harbour, in fact, consists of the channel that separates Foynes Island and the mainland, in which there is an ample depth of water at all times of tide. Foynes is well situated as a converging point for the traffic of the north-west portions of the County of Limerick—an extensive district not many years since the scene of lawless disturbance and aggrarian excitement, but now happily under rapid transition into one of peace, industry, and prosperity. The new roads, made principally at the public expense, have tended in a striking degree to this improvement, and a facility of export for the constantly increasing agricultural products of the country is much required; this can be effected most advantageously by the erection of a shipping wharf at Foynes in a situation affording peculiar facilities for the purpose, where there is ample depth of water and sheltered anchorage, an extensive platform in the rear of it close to the high road between Limerick and Tarbert, and within 1,100 yards of one of the finest limestone quarries in the south of Ireland. This valuable quarry is situated at the western extremity of the limestone district, and a facility of shipping stone from it is most desirable, not only as a superior material to all others in the district for the erection of works in the Shannon itself, but also for burning into lime, to be used in the agricultural improvement of the north coast of the County of Limerick, and also of the opposite coast of the County of Clare.

It may naturally be expected, that the produce of the agricultural districts in the neighbourhood of Foynes will be brought to this quarry for shipment, as the great post road from Limerick to Tarbert and Tralee passes close to it, and the facilities for loading and unloading will be far superior to any place within a considerable distance from it.

A still later report has been made on the same subject by Captain Washington, R.N., one of the Tidal Harbour Commissioners, from which I take the following extract:—

"Foynes Island, 9 miles from Tarbert and 20 miles below Limerick, is about three-quarters of a mile each way, and rises to a height of 200 feet; to the south and south-east of the island between it and the mainland is an excellent and well-sheltered harbour of about 60 acres in extent, capable of containing many vessels in depths of from three to six fathoms, the bottom being stiff mud, the best quality of holding ground; the entrance to the harbour from the north-west is quite clear and deep, that from the north-east is most intricate, and at low-water tide is only suited to small vessels. Foynes is well situated as a converging point for the traffic of the north-west portion of the County of Limerick, a district rapidly advancing in industry, and consequent prosperity; a shipping place for its agricultural produce is much wanted, and Foynes offers every facility for this purpose in its sheltered anchorage and ample depth of water. It is also in the immediate neighbourhood of the high road to Limerick, and within three-quarters of a mile of one of the finest limestone quarries in the south of Ireland.

"Hitherto this harbour has been little used except by stone boats; but there is no place in the Shannon so well adapted for the site of a commercial town, while on the island there are already natural docks requiring but little assistance from art to render them serviceable."

Such is the combination of evidence from official and impartial authorities, which from the year 1832 to 1846 have recommended the work now about to be commenced to the attention of the public, the Legislature, and the Government.

In the first design which was laid before the House of Commons, and of which I enclose a tracing, it was proposed to erect a lighthouse on the western pier of the intended docks;

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Miscellaneous Letters, Reports, &c.

this would have acted as a harbour light, and would also, though to a limited extent, have opened towards the west and down the river. On consideration, however, the Commissioners have varied the plan, and propose to erect a pier somewhat further to the east; here a lighthouse would be of no use for the general navigation of the river, and a mere pier-head light can be more economically provided; but in other respects it is stated that the change will be most beneficial to commerce, as affording better and more extended accommodation to shipping. But I submit to your Board with great earnestness the extreme importance of establishing a lighthouse on the island of Foynes, not alone or indeed necessarily in reference to the proposed harbour, but as connected with the general navigation of the River Shannon.

You are aware that the navigation of the river is perfectly open and free from the heads to Foynes Island; above this station, and, indeed, the whole way to Limerick, is most intricate and dangerous. One of Her Majesty's steamers, at the present moment, lies stranded near Begh Castle, and cases have frequently happened in which the river craft, and even sea-going vessels of burthen, have been driven from their anchors and forced to run for Foynes, where they are in perfect safety; as an instance, I can refer to the case of the "Gleanor," in the heavy gale of January, 1839. In all such cases, a light at Foynes would be most important; it would open, I believe, from the west from your Light of Tarbert, and from the east from above Grass Island. Thus the light I suggest would be important both ways, and also to the proposed harbour; but I fear it may appear presumptuous in a non-professional person like myself to enlarge on these points. The knowledge which the Board have within their reach in the various official reports to which I have referred, the Admiralty charts of the Shannon and of Foynes harbour, founded on the late minute and accurate survey of Captain Wolf, R.N., the information which your own able officers and engineers have obtained from personal inspection, will enable you fully to judge of the importance of the suggestion I have made, and should a more special report be required, the facilities of communication are now so great, that a few days would enable to bring to the test of further observation all the particulars to which I have taken the liberty of calling your attention.

I have, &c.,

To the Commissioners of the Ballast Board, &c. &c. &c. MONTEAGLE.

P.S.—I believe the best site for a lighthouse for the general purposes to which I have adverted would be the centre or the north part of the island.

To Her Majesty's Commissioners appointed to inquire into the proper station for Transatlantic Steamers.

The MEMORIAL of the American Chamber of Commerce of Liverpool,

SHOWETH,

THAT Liverpool is the great emporium of the cotton trade, and has direct communication with Manchester and the manufacturing districts of Lancashire and Yorkshire.

That the business transacted at Liverpool with the United States and Canada is greater than in all the other ports of the Kingdom.

That it is of the utmost importance to merchants and others engaged in trade in Liverpool that there should be the greatest facilities afforded for conveying intelligence of the state of the market, the fluctuations in prices, and other commercial intelligence to their correspondents in America, and for posting their advices up to the latest time.

That under the present arrangement for despatching the mails from Liverpool, the greatest facilities are afforded for effecting this object, as letters can be posted within half an hour of the departure of the steamer.

That if the mails were despatched from any other port, the merchant here would always be in arrear of the market, and great loss and inconvenience would arise.

That the great majority of passengers from and to America have business in Liverpool and the surrounding districts; and that any other port of arrival or departure would be less convenient, and would involve useless delay and expense.

That for these and other reasons, Liverpool is the most natural and most convenient station for the departure and arrival of the North American steamers, and any change to another port would inflict a serious injury not only on Liverpool, but on the districts of Lancashire and Yorkshire, where the American trade is chiefly located, without any adequate advantage being gained.

Your Memorialists therefore pray that your Lordships will not sanction any alteration in the station for the North American mail steamers.

WM. RATHBONE, Jun.,

Liverpool, April 1, 1851. *President of the American Chamber of Commerce.*

To the Honourable the Commissioners for Inquiry into the Transatlantic Steam Navigation from Great Britain and Ireland.

The Humble MEMORIAL of the Liverpool Shipowners' Association.

SHOWETH,

THAT your Memorialists are extensively interested in British shipping employed in the trade between the port of Liverpool and the British colonies in North America and the

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United States of America, and it is of the utmost importance to them that a regular post-office communication should he maintained between that port and the colonies and States above mentioned.

That such communication has been afforded for a great number of years by the British and North American Royal mail packets plying between Liverpool and Halifax and Boston, and the punctuality with which these vessels have departed from and entered the River Mersey is unparalleled in the history of steam navigation between Great Britain and foreign parts.

That such punctuality as regards departure from Liverpool is attributable to tha excellent arrangements made by the parties having the management of those packets at that place, and in the carrying out of whicb arrangements the public authorities of Liverpool and the merchants and others interested have most cordially and successfully co-operated.

That such punctuality has been of the greatest convenience and advantage to the public, and has enabled persons living in any part of the United Kingdom to calculate witbin one hour the time of their departure from Liverpool, and to make all their travelling and other arrangements accordingly; and as regards the transmission of lettere, has enabled the merchants of Liverpool and Manchester, and the manufacturers of Yorkshire and Lancashire, forming a very large proportion of the correspondents in Great Britain with British North America and the United States, to post their lettere containing the latest advices and information within a very short time before the departure of the packets.

That this punctuality moreover has afforded great accommodation to parties shipping hy the said packets manufactured goods of a light weight, and this, combined with the facilities of hringing such goods to Liverpool by means of its railway communications with the manufacturing districts, and steam communication with Scotland and Ireland, has originated a particular trade in the export hy these packets of this description of goods, and which trade would be greatly prejudiced, and would have to be conducted at a greatly increased cost if the packets were removed to a station offering none of these facilities.

That your Memorialists have heard with surprise and regret that a proposal for changing the British and Nortb American Mail Packet Station from Liverpool to Holyhead has been entertained by Her Majesty's Government.

That your Memorialists believe that no such change has been called for by the puhlic, and they cannot see a single advantage which it will afford to any parties, excepting the shareholdere interested in the Chester and Holyhead Railway, and a few persons resident at Holyhead, and it may perhaps (assuming that tbe same punctuality will exist at Holyhead as at Liverpool) save one or two hours in the transmission of letters from London to North America.

But your Memorialists are convinced that such removal will be most injurious to the mercantile and manufacturing hodies from which the passenger traffic by these packets is principally supplied: it will compel them to travel with all their luggage in many cases one hundred miles further tban at present, at a great cost both of time and money; and as regards letters, it will oblige them to post the same a day at least iustead of a few hours—in Liverpool only balf an hour—before the departure of the packet; and with reference to the export of light goods above referred to, it will probably transfer such trade from tbe mail packets to the American contract or other steamers. And on this point your Memorialists would remark, that as the depriving tbe coutractors for the mail packets of this trade will withdraw a large item of profit in the working of their vessels, it must ultimately have the effect in future contracts, of enhancing to the Government the cost of carrying tbe mails from this country to North America.

That Liverpool being the great centre and mart of the trade between these kingdoms and the British colonies in North America and the United States, and the natural resort of all persons engaged therein, and enjoying the most abundant means and facilities of communication with the great trading communities in the north of England and in Scotland and Ireland, all more or less connected with the trade to the United States and North America, is clearly the fittest place for the Government Mail Packet Station to those parts.

That Holyhead is an artificial and exposed harbour, and in this respect is very inferior as a packet station to Liverpool, and possesses none of those advantages of graving-docks and other means for effecting repairs to the packets or to tbeir machinery which Liverpool affords.

Tbat the mode in which this packet service has been conducted at Liverpool, having for many years giveu the greatest satisfaction to the puhlic, and it is believed, to Her Majesty's Government; that no grievance having been suffered by any one party by reason of the station having been at this port; that no portion of the public having called for a change to Holyhead; that as the removal thither would effect little if any saving of time in the transit of letters, your Memorialists respectfully submit that the contemplated change is unnecessary and uncalled for, and that such an alteration, without conferring any benefit on the public, would inflict a serious injury on Liverpool, and many large and influential bodies of Her Majesty's subjects in other trading communities.

That all the objections urged by your Memorialists against Holyhead, with the exception of those relating to the nature of its barbour, are applicable in a two-fold degree against Southampton, to which port it has been rumoured tbat Her Majesty's Government have also had under consideration the expediency of removing the British American Steam Packet Station.

Your Memorialists, therefore, for the various reasons above stated, humbly pray your Honourable Board not to recommend that the station for Her Majesty's mail packets should he removed from Liverpool.

And your Memorialists will ever pray, &c.

ROBERT RANKIN, *Chairman.*

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Miscellaneous Letters, Reports, &c.

Sir James Dombrain to Admiral Sir J. Gordon.

My Dear Sir James, *36, Leeson Street, Dublin, April* 12, 1851.

I entirely omitted in my evidsnce a point upon which the Commissioners appeared anxious to obtain information; I mean as to the prevalence of fogs. I am aware that I stated in general terms that I considered ths *west coast* all alike in that respect; hut I should have said that fogs prevail in the Shannon to a very great extent. I think it was in the year 1847 that, on four separate and distinct occasions, in the middle of summer, I was detained several bours in ths small steamer which runs between Limerick and Kilrush. It is, of course, easily accounted for: the immense quantity of mud which dries at low water in warm weather, in particular, sends forth such a mass of exhalation as to cause *very heavy* fogs, indeed, I think the most dense I ever saw. I feel it right to put you in possession of these facts, as I think it important as hsaring upon the gensral question under your consideration.

I have, &c.,

J. Dombrain.

My Lord, *Clarendon Lodge, Sandymount, Dublin, April* 16, 1851.

The taking a deep interest in this subject will, I trust, excuse my troubling your Lordship with the enclosed letter. The writer, an experienced seaman in the merchant service, with the highest testimonials, and having been frequently in the Bay of Galway, entitles his testimony to have great weight with the authorities.

Soms months since I had the honour of forwarding the answers of Captain Richards to the queries of your Commission. Evidence so favourable to Galway will, I trust, go far to detsrmine this much-debated question of a packet station in its favour.

I send a copy of the enclosed to the Packet Station Committee at Galway, explaining why for the reason stated (the dangsr of delay) I have sent the evidence direct to your Lordship.

I have, &c.,

The Lord Hobart, Thomas Bermingham, J.P.,
&c. &c. County of Galway.

Extracts from a letter addressed to Thomas Bermingham, Esq., by Captain James Richards, R.N.

Youghal, April 2, 1851.

Having had a lettsr from Galway, stating that the Packet Station Committee now sitting in London had applied to the Galway Committee on one material point, which the latter has referred to Captain O'Malley, of the "Eliza" revenue cutter, now on the Kinsale station, the question to bs answered heing, is Galway a lee shore with the prevailing westwardly and south-westwardly winds? it strikes me that I can give some useful information regarding this question; and as I conclude it is of importance, perhaps it would be well to forward my remarks, if you think proper.

Tbe Arran Islands, or Slyne Head, hear from the Blaskets about N.E. by E. by compass. What is technically termed a lee shore is a wind hlowing at right angles on ths bearings of the shore; seamen also tarm it dead on the shore. On this head the wind should be from N.W. by N. to make Galway a lee shore, or is at right augles with N.E. by E.; so that the prevailing winds, say S.W. (that is between south and west), *would be a long-shore wind,* or parallel to the shore, on ths coast of Galway. Whereas a S.W., or prevailing wind, would make the S.W. coast, say from Cork to the Blaskets, a dead lee shore, and would make Galway Bay so much more favourable for a large steamer, either bound into or going out of it, than any other port on the S. or S.W. coast of Ireland; this, I am convinced, will he the candid decision of any nautical person. There is shelter for a large steamer with any wind in Galway Bay. I consider it absurd to expect any just information on these points, except from nautical men. I beg to remark, the wind which would make Galway a lee shore, that is N.W., would make the atmosphere quite clear, so that a ship might holdly approach the land.

(Signed) James Richards.

My Lord, *Liverpool, May* 14, 1851.

I have the honour to encloss a return of the exports from Belfast direct to the United States and Canada, and also coastwise, which is the most accurate I can ohtain.

Tbe great bulk of the goods wbich are sent to Liverpool are transhipped to all parts of the world, but the greatest proportion go to the west coast of South America, Brazil, Mexico, and the United States. I am, bowever, unable to give even an approximation of what is sent to each country.

The Lord Hobart, I have, &c.,
&c. &c. J. Bramley Moore.

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Exports from Belfast to United States and Canada for the Year 1850.

Linen	65 boxes,	to United States.	
Thread	16 ditto	ditto.	
Bacon	2 bales,	Canada.	
Brass	3¼ tons,	United States.	
Brandy	20 hhds.,	Canada.	
Bricks (6re)	10 tons,	United States.	
Canvas	1 bale	ditto.	
Clothing	1 bale	ditto.	
Coals	810 tons	ditto.	
Ditto	478½ tons,	Canada.	
Farming utensils,	2 carts, 4 ploughs, 2 harrows,	United States.	
Glue	12½ tons	ditto.	
Hemp	10 tons	ditto.	
Horses	2	ditto.	
Hardware	3 tierces,	Canada.	
Iron (pig)	3190 tons,	United States.	
Iron (pig)	365 tons,	Canada.	
Ditto (scrap)	245 tons,	United States.	
Looms	4	ditto.	
Moulding sand	240 toos	ditto.	
Ditto	155 tons,	Canada.	
Rags	42½ tons,	United States.	
Rope	31½ tons,	Canada.	
Ditto	184 tons,	United States.	
Sacking	42 bales	ditto.	
Salt	1817 tons	ditto.	
Slates	20 tons	ditto.	
Sails	13 bales,	Canada.	
Whiskey	7 puncheons,	United States.	
Yarn	30 bales	ditto.	
Castings	1½ tons,	Canada.	

Exports of Linen, Calico, Muslin, and Thread from Belfast to Liverpool in the Year 1850.

Linen	37,626 boxes.
Calico	335 bales, 150 trusses.
Muslin	67 bales, 610 boxes.
Thread	4,654 boxes.

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For Her Majesty's Stationery Office.

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INDEX

TO

REPORT

OF THE

COMMISSIONERS

APPOINTED TO INQUIRE AS TO THE

HARBOUR IN IRELAND

BEST ADAPTED FOR

A PACKET STATION.

Presented to both Houses of Parliament by Command of Her Majesty.

LONDON:
PRINTED BY WILLIAM CLOWES AND SONS, STAMFORD STREET,
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ANALYSIS OF INDEX.

ALPHABETICAL and CLASSIFIED LIST of the PRINCIPAL HEADINGS referred to in the following INDEX, with the Pages of the INDEX at which they will respectively be found.

Page

AMERICAN MAILS. (*See* MAILS AND POSTAL ARRANGEMENTS.)

AMERICAN MAIL STEAM PACKETS. (*See* UNITED STATES MAIL STEAM PACKETS AND OCEAN STEAM NAVIGATION COMPANY.)

AMERICAN RAILWAYS. (*See*, NORTH AMERICAN RAILWAYS.)

AMERICAN ROYAL MAIL STEAM PACKETS. (*See* BRITISH AND NORTH AMERICAN ROYAL MAIL STEAM PACKETS.)

BELFAST 340

BERREHAVEN (BANTRY BAY):—
- I. Description of:—
  - 1. Generally 341
  - 2. Lights and Headlands . . . *ib.*
  - 3. Rocks, Shoals, &c. . . . . *ib.*
  - 4. Anchorage Ground, Depth of Water, Facilities for Landing, &c. . . . *ib.*
  - 5. Docks, Wharves, Piers, and Jetties . 342
  - 6. Repairs of Machinery and Vessels, Accommodation for Passengers, &c. . *ib.*
  - 7. Price of Coal, Mode of Coaling, &c. . *ib.*
  - 8. Inland Communications . . . *ib.*
  - 9. Pilotage . . . . . *ib.*
- II. Its Advantages for a Packet Station . *ib.*
- III. Its Disadvantages for a Packet Station . *ib.*
- IV. Improvements and Works required . . *ib.*

BRITISH AND NORTH AMERICAN ROYAL MAIL STEAM PACKET COMPANY . . . 343

BRITISH AND NORTH AMERICAN ROYAL MAIL STEAM PACKETS (CUNARD'S LINE) . . *ib.*

CAPE CANSO—NOVA SCOTIA. (*See* WHITEHAVEN.)

CHESTER AND HOLYHEAD RAILWAY . . . 344

CITY OF DUBLIN STEAM PACKET COMPANY . *ib.*

COAL FOR STEAM VESSELS:—
- I. Description and Cost of—used on board the Transatlantic Steam Packets. . . *ib.*
- II. Description and Cost of—if procured from Cork or any Port on the West Coast of Ireland . . . . . *ib.*

CORK:—
- I. Description of:—
  - 1. Generally 345
  - 2. Lights and Headlands . . . *ib.*
  - 3. Rocks and Shoals . . . . *ib.*
  - 4. Anchorage Ground, Depth of Water, Facilities for Landing, &c. . . . *ib.*
  - 5. Docks, Wharves, Piers, and Jetties . *ib.*
  - 6. Repairs of Machinery and Vessels, Accommodation for Passengers, &c. . *ib.*
  - 7. Price of Coal, Mode of Coaling, &c. . *ib.*
  - 8. Inland Communications . . . *ib.*
  - 9 Pilotage 346
- II. Its Advantages for a Packet Station . *ib.*
- III. Its Disadvantages for a Packet Station . *ib.*
- IV. Improvements and Works required . . *ib.*

CROOKHAVEN:—
- I Description of:—
  - 1. Generally 346
  - 2. Lights and Headlands . . . *ib.*
  - 3. Rocks and Shoals . . . . *ib.*
  - 4. Anchorage Ground, Depth of Water, Facilities for Landing, &c. . . . 346
  - 5. Docks, Wharves, Piers, and Jetties . *ib.*
  - 6. Repairs of Machinery and Vessels, Accommodation for Passengers, &c. . *ib.*
  - 7. Price of Coal, Mode of Coaling, &c. . *ib.*
  - 8. Inland Communications . . . 347
  - 9. Pilotage . . . . . *ib.*
- II. Its Advantages for a Packet Station . *ib.*
- III. Its Disadvantages for a Packet Station . *ib.*
- IV. Improvements and Works required . . *ib.*

DUBLIN AND KINGSTOWN RAILWAY . . . 349

DUNBEACON HARBOUR . . . . . *ib.*
(*See also* DUNMANUS BAY.)

DUNMANUS BAY:—
- I. Description of:—
  - 1. Generally 349
  - 2. Lights and Headlands . . . *ib.*
  - 3. Rocks and Shoals . . . . *ib.*
  - 4. Anchorage Ground, Depth of Water, Facilities for Landing, &c. . . . 350
  - 5. Docks, Wharves, Piers, and Jetties . *ib.*
  - 6. Repairs of Machinery and Vessels, Accommodation for Passengers, &c. . *ib.*
  - 7. Price of Coal, Mode of Coaling, &c. . *ib.*
  - 8. Inland Communications . . . *ib.*
  - 9. Pilotage . . . . . *ib.*
- II. Its Advantages for a Packet Station . *ib.*
- III. Its Disadvantages for a Packet Station . *ib.*
- IV. Improvements and Works required . . *ib.*

ELECTRIC TELEGRAPH . . . . . *ib.*

EMIGRATION FROM GREAT BRITAIN AND IRELAND . . . . . *ib.*

EMIGRANT VESSELS 351

FALMOUTH 352

FOYNES (RIVER SHANNON) . . . . *ib.*
- I. Description of:—
  - 1. Generally . . . . . *ib.*
  - 2. Lights and Headlands . . . *ib.*
  - 3. Rocks, Shoals, &c. . . . . *ib.*
  - 4. Anchorage Ground, Depth of Water, Facilities for Landing, &c. . . *ib.*
  - 5. Docks, Wharves, Piers, and Jetties . *ib.*
  - 6. Repairs of Machinery and Vessels, Accommodation for Passengers, &c. . *ib.*
  - 7. Price of Coal and Mode of Coaling . *ib.*
  - 8. Inland Communication . . . *ib.*
  - 9. Pilotage 353
- II. Its Advantages for a Packet Station . *ib.*
- III. Its Disadvantages for a Packet Station . *ib.*
- IV. Improvements and Works required . . *ib.*

GALWAY:—
- I. Description of:—
  - 1. Generally 353
  - 2. Lights and Headlands . . . *ib.*
  - 3. Rocks and Shoals . . . . *ib.*
  - 4. Anchorage Ground, Depth of Water, Facilities for Landing, &c. . . . *ib.*
  - 5. Docks, Wharves, Piers, and Jetties . 354
  - 6. Repairs of Machinery and Vessels, Accommodation for Passengers, &c. . *ib.*
  - 7. Price of Coal, Mode of Coaling, &c. . *ib.*
  - 8. Inland Communications . . . *ib.*
  - 9. Pilotage . . . . . *ib.*

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Page

GALWAY—*continued.*
II. Its Advantages for a Packet Station . . 355
III. Its Disadvantages for a Packet Station . *ib.*
IV. Improvements and Works required . . *ib.*
GOODS TRAFFIC:—
England and America 356
Belfast and Liverpool . . . . . *ib.*
Liverpool and Galway . . . . . *ib.*
GREAT CIRCLE SAILING . . . . . *ib.*
HALIFAX—NOVA SCOTIA . . . . . *ib.*
HOLYHEAD . . . . . *ib.*
INSURANCE 357
IRISH PORTS ON SOUTH AND WEST COASTS OF IRELAND—PROPOSED TRANSFER OF TRANSATLANTIC PACKET STATION TO—
Berehaven. (*See* Berehaven.)
Cork. (*See* Cork.)
Crookhaven. (*See* Crookhaven.)
Dunmanus Bay. (*See* Dunmanus Bay.)
Foynes. (*See* Foynes.)
Galway. (*See* Galway.)
Limerick. (*See* Limerick.)
Long Island. (*See* Long Island.)
Tarbert. (*See* Tarbert.)
Valentia. (*See* Valentia.)
KINGSTOWN RAILWAY. (*See* DUBLIN AND KINGSTOWN RAILWAY.)
LIGHT DUES 358
LIMERICK . . . . . *ib.*
LIVERPOOL:—
Its Advantages for a Transatlantic Packet Station:—
I. Facility and Safety of Approaches . . 358
II. Facilities for Repairs of Machinery, &c. . *ib.*
III. Its Central Position in respect of Goods Traffic . . . . . *ib.*
LIVERPOOL AND PHILADELPHIA STEAM SHIP COMPANY 359
LONG ISLAND CHANNEL:—
I. Description of:—
1. Generally 360
2. Lights and Headlands . . . . *ib.*
3. Rocks and Shoals . . . . . *ib.*
4. Anchorage Ground, Depth of Water, Facilities for Landing, &c. . . . *ib.*
5. Docks, Wharves, Piers, and Jetties . *ib.*
6. Repairs of Machinery and Vessels, Accommodation for Passengers, &c. . *ib.*
7. Price of Coal, Mode of Coaling, &c. . *ib.*
8. Inland Communications . . . *ib.*
9. Pilotage . . . . . *ib.*
II. Its Advantages for a Packet Station . . *ib.*
III. Its Disadvantages for a Packet Station . *ib.*
IV. Improvements and Works required . . 361
MAILS:—
United States and British North American Colonies 362
Brazil 363
West Indies, East Indies, and Peninsula . *ib.*
MAILS—CONVEYANCE OF BY RAILWAY . . *ib.*
MAIL STEAM PACKETS. (*See* BRITISH AND NORTH AMERICAN ROYAL MAIL STEAM PACKETS, AND UNITED STATES MAIL STEAM PACKETS.)
MIDLAND GREAT WESTERN RAILWAY OF IRELAND 364
MILFORD HAVEN . . . . . *ib.*
NORTH AMERICAN MAIL STEAM PACKETS. (*See* BRITISH AND NORTH AMERICAN MAIL STEAM PACKETS, AND UNITED STATES MAIL STEAM PACKETS.)
NORTH AMERICAN RAILWAYS:—
Generally 369
Between Halifax and Quebec . . . *ib.*
Between New York and Halifax or Whitehaven . . . . . *ib.*

Page

NORTH CHANNEL PASSAGE 369
OCEAN STEAM NAVIGATION COMPANY . . *ib.*
PASSAGE. (*See* CORK.)
PATENT SLIP 369
PORTS OF CALL FOR TRANSATLANTIC MAIL STEAM PACKETS:—
1. Generally 370
2. Berehaven . . . . . *ib.*
3. Cork . . . . . *ib.*
4. Crookhaven 371
5. Holyhead . . . . . *ib.*
6. Valentia . . . . . *ib.*
PORTS ON SOUTH AND WEST COAST OF IRELAND SUGGESTED FOR ESTABLISHMENT OF TRANSATLANTIC PACKET STATION:—
Berehaven. (*See* Berehaven.)
Cork. (*See* Cork.)
Crookhaven. (*See* Crookhaven.)
Dunmanus Bay. (*See* Dunmanus Bay.)
Foynes. (*See* Foynes.)
Galway. (*See* Galway.)
Long Island Channel. (*See* Long Island Channel.)
Tarbert. (*See* Tarbert.)
Valentia. (*See* Valentia.)
POSTAL ARRANGEMENTS 371
(*See also* MAILS—CONVEYANCE OF, BY RAILWAY.)
POST OFFICE:—
Liverpool 371
Holyhead . . . . . *ib.*
Galway 372
Dublin . . . . . *ib.*
PLYMOUTH . . . . . *ib.*
QUEENSTOWN. (*See also* CORK.)
RAILWAYS . . . . . *ib.*
REPAIRS TO STEAM VESSELS AND MACHINERY . *ib.*
ROYAL MAIL STEAM PACKETS. (*See* BRITISH AND NORTH AMERICAN ROYAL MAIL STEAM PACKETS.)
SHANNON RIVER—PORTS IN, SUGGESTED FOR ESTABLISHMENT OF TRANSATLANTIC PACKET STATION:—
Foynes. (*See* Foynes.)
Limerick. (*See* Limerick.)
Scattery Road. (*See* Scattery Road.)
Tarbert. (*See* Tarbert.)
SCATTERY ROAD 373
ST. GEORGE'S CHANNEL . . . . . *ib.*
SOUTHAMPTON . . . . . *ib.*
SPEED OF MAIL STEAM PACKETS . . . *ib.*
SPEED ANTICIPATED FROM IMPROVEMENTS IN THE CONSTRUCTION OF STEAM VESSELS . *ib.*
STEAM PACKETS—BETWEEN ENGLAND AND AMERICA. (*See* BRITISH AND NORTH AMERICAN ROYAL MAIL STEAM PACKETS AND UNITED STATES MAIL STEAM PACKETS.)
STEAM VESSELS FOR NORTH AMERICAN PACKET SERVICE:—
I. Description of:—
1. British and North American Royal Mail Steam Packets (Cunard's Line), Liverpool and New York *viâ* Halifax. (*See* British and North American Steam Packets.)
2. United States Mail Steam Packets, New York and Liverpool. (*See* United States Mail Steam Packets), New York and Havre *viâ* Southampton; New York and Bremen *viâ* Southampton. (*See* Ocean Steam Navigation Company.)
II. Proposed Improvements in . . . 374

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Page

TARBERT (River Shannon):—
I. Description of:—
1. Generally 375
2. Lights and Headlands . . . ib.
3. Rocks, Shoals, &c. . . . . ib.
4. Anchorage Ground, Depth of Water, Facilities for Landing, &c. . . ib.
5. Docks, Wharves, Piers, and Jetties . ib.
6. Repairs of Machinery and Vessels, Accommodation for Passengers, &c. . ib.
7. Price of Coal and mode of Coaling . ib.
8. Inland Communications . . . ib.
9. Pilotage . . . . . ib.
II. Its Advantages for a Packet Station . . ib.
III. Its Disadvantages for a Packet Station . ib.
IV. Improvements and Works required . . 376
TRADE BETWEEN IRELAND AND NORTH AMERICA ib.
TRANSATLANTIC PACKET STATION — PROPOSED TRANSFER FROM LIVERPOOL TO A PORT ON THE SOUTH OR WEST COAST OF IRELAND:—
I. Generally 376
II. Advantages of such Transfer . . . ib.
1. Saving of Time for Passengers and Mails 377
2. Shortening the Sea Voyage, and avoidance of the Dangers of Channel Navigation . . . . . ib.
3. Saving of Expense 378
4. Commercial Advantagas . . . ib.
5. National Advantages . . . ib.
III. Disadvantages, &c.:—
1. Increased Expenses 378
2. Loss of Passengers and Freight . . 379
3. Want of means for repair of Vessels, Machinery, &c. . . . . ib.
4. Commercial Disadvantages . . . ib.
5. Nautical Difficulties and consequent Irregularities in the Delivery of the Mails, ib.

Page

IV. Evidence in respect of particular Ports:—
Berehaven. (*See* Berehaven.)
Cork. (*See* Cork.)
Crookhaven. (*See* Crookhaven.)
Dunmanus Bay. (*See* Dunmanus Bay.)
Foynes. (*See* Foynes.)
Galway. (*See* Galway.)
Long Island. (*See* Long Island.)
Tarbert. (*See* Tarbert.)
Valentia. (*See* Valentia.)

TRANSHIPMENT:—
Inconvenience of, in respect of Passengers . 381
Inconvenience of, in respect of Goods . ib.

UNITED STATES MAIL STEAM PACKETS . . 381
UNITED STATES MAIL STEAM SHIP COMPANY . ib.
(*See* UNITED STATES MAIL STEAM PACKETS.)

VALENTIA:—
I. Description of:—
1. Generally 381
2. Lights and Headlands . . . ib.
3. Rocks and Shoals . . . . ib.
4. Anchorage Ground, Depth of Water, Facilities for Landing, &c. . . . ib.
5. Docks, Wharves, Piers, and Jetties . ib.
6. Repairs of Machinery and Vessels, Accommodation for Passengers, &c. . ib.
7. Price of Coal, Mode of Coaling, &c. . ib.
8. Inland Communications . . . ib.
9. Pilotage 382
II. Its Advantages for a Packet Station . . ib.
III. Its Disadvantages for a Packet Station . ib.
IV. Improvements and Works required . . ib.

WHITEHAVEN—NOVA SCOTIA . . . 384

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INDEX.

[In the following Index the figures refer to the pages of the Evidence.]

American Mails.—*See* Mails and Postal Arrangements.

American Mail Steam Packets.—*See* United States Mail Steam Packets, and Ocean Steam Navigation Company.

American Railways.—*See* North American Railways.

American Royal Mail Steam Packets.—*See* British and North American Royal Mail Steam Packets.

Archibald, Charles D., (Analysis of his Evidence):—Has been practically acquainted with the transatlantic steamers for many years, and can testify to the great desire which exists on the other side of the world that some point on the west of Ireland should be selected as the port for the departure and arrival of vessels, 167.—Halifax regarded as the best point on the American coast, *ib.*—The American packets will most probably touch at Halifax as soon as the line of railway to that place is completed and connected with the great lines in the United States, *ib.*—Opinions of the commercial public of New York in favour of a Packet Station on the west coast of Ireland, 166—Believes that the managers of Collins's line of packets, would prefer to have the point of embarkation on the western coast of Ireland rather than on the western coast of England, *ib.*—This preference grounded upon the prospect of obtaining a proportion of the passenger traffic, and of the conveyance of the mails, *ib.*—Shortening the voyage considered of great importance in New York, *ib.*—Much greater importance attached to this matter in the United States than in this country, *ib.*—On the completion of the Halifax Railway, and connecting it with the American lines, 50 or 52 hours will be saved between the west of Ireland and New York, *ib.*—Halifax far preferable to Whitehaven as the port for the packet service, *ib.* Whitehaven the worst that could be selected, *ib.*—The navigation at Whitehaven often interrupted not only by being frozen up in winter, but also by the floating ice which is driven into the harbour at a later season by the current, *ib.*—Difficult nature of the country between Whitehaven and St. John's, *ib.*—Description of the country between Halifax and St. John's, *ib.*—Mode of crossing ferries connecting railways on opposite sides, *ib.*—This accomplished with great facility, *ib.*—18 miles an hour the ordinary speed on American lines of railway, 169.—The express trains do not exceed 30 miles an hour, *ib.*—These trains only run on the main lines, *ib.*—Opinion of nine-tenths of the population of Nova Scotia in favour of Halifax as compared with Whitehaven, *ib.*—Considers the Cunard line of packets very fine vessels, none better on the ocean, *ib.*—Does not remember ever to have been impeded by fog in making the western coast of Ireland, *ib.*—Thinks if Cunard's packets were removed from Liverpool to a western port in Ireland that Collins's packets would soon follow them, *ib.*—Thinks the freight a very small item in the receipts of the mail packets, *ib.*—The passenger traffic and the conveyance of the mails of sufficient importance to compel the introduction of a class of steamers suited to the ocean voyage without reference to freight, *ib.*

Belfast—

Belfast is the most enterprising and most prosperous port in Ireland, *Washington*, 132.—Its trade is large and annually increasing, *ib.*—The Trustees have recently laid out 400,000*l.* in improvements, *ib.*—Continuous railway communication between Belfast and Galway, expected to be soon completed by means of the Midland and Northern railways of Ireland, *Perry*, 153.—If Galway were made a packet station, such a communication would be immediately effected, *ib.* 153.—The charge for goods by railway from Belfast to Galway would be about

Belfast—*continued.*

the same as the charge for freight from Belfast to Liverpool, *ib.* 153.—1*l.* per ton a fair average charge for freight between Belfast and Liverpool; but it is not more than 10*s.* on some descriptions of goods, *ib.* 153.—The manufactures of Ulster the principal exports from Ireland to America, *ib.* 153.—They are generally sent to Liverpool for exportation, but occasionally vessels go direct from Belfast to America, *ib.* 154.—They are always sure of dispatch if sent to Liverpool, whenever they are sent over, as trading vessels and sailing vessels go from thence twice or thrice a week, *ib.* 154.—Mode of carrying on the Belfast trade recently changed on account of its great increase, *Kennedy*, 46.—Consumer and producer now brought more immediately into personal contact, *ib.* 46.—All parties benefited thereby, and the goods greatly improved in quality and style, *ib.* 46.—Further particulars relative to the Belfast trade, *ib.* 276.—Statement of exports from Belfast to Canada and United States in 1850, and of the exports of certain articles from Belfast to Liverpool in 1850, *ib.* 33 *l.*—The tonnage entered and cleared out in 1850 was 624,113 tons, *Washington*, 132.—The existing packet arrangements injurious to the Belfast trade, *O'Flaherty*, 107.—The want of a direct communication with America injurious to the trade, *Daly*, 110.—Opinions of mayor and town council, and 26 merchants of Belfast in favour of the establishment of a packet station at Galway, *ib.* 275.—They believe it would prove highly beneficial to the trade of Belfast, *ib.* 275.—As regards the conveyance of letters to America, Belfast would be better served from Holyhead than Galway, *Maberley*, 142.—Belfast would save about 20 hours by making Galway the station for American packets, *Hill*, 145.—There are 42 large flax, and four cotton-spinning mills at full work, within 10 miles of Belfast, *Marmion*, 37.—17,000 persons are employed in spinning, 40,000 in weaving, and 200,000 females in sewing and figuring light cottons and muslins, *ib.* 37.—300,000 women are said to be employed upon the sewed branch, *Kennedy*, 46.—Particulars of the steam traffic between Belfast and Dublin, and Belfast and Liverpool; specifying the number of steamers, and of monthly trips on each line, and the freight for passengers and goods, *Griffith*, 250.

Belcher, Captain Sir Edward, R.N. (Analysis of his Evidence):—Has given the subject of a western Packet Station much attention for the last 20 years, 169.—Looks upon this as a naval question, *ib.*—Thinks in many cases the packet would be compelled to seek another port than the one determined upon for the Packet Station, *ib.*—There is no port on the south-western or western side of Ireland which could be entered at all times and under all circumstances, 170.—Mr. Church, who has been surveying the western coast, says, that he should be very sorry, in many cases, pilot as he is, to take one of the American packets into any of the south-western ports of Ireland, *ib.*—Reasons for this opinion, *ib.*—Dangers of a lee shore and heavy following sea in making land, *ib.*—If the accident which happened to the "Atlantic" had occurred under such circumstances, she must have been lost, *ib.*—Considers the packet steamers much undermanned, and that they are not able to cope with a gale of wind under canvass in a lee shore, *ib.*—Neither officer nor men permanently attached to their ships, *ib.*—The whole of the English coast is safe to approach, under ordinary or even extraordinary circumstances, *ib.*—There would not be the same danger in making Liverpool as the west-coast of Ireland, *ib.*—Does not think soundings of much use in approaching Galway Bay from the west, *ib.*—The vessels would be too far on the lee shore, on striking soundings, to be of much use, *ib.*—If compelled to make the west-coast of Ireland, there

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Belcher, Captain Sir Edward—continued.
must be a pilot on board *for every port*, *ib.*—Soundings extend 30 or 40 miles from Galway; off the *Heads* soundings would be struck 10 miles off shore, *ib.*—The 100 fathom line of sounding of little use, *ib.*—Danger of rounding-to to sound in a heavy following sea, *ib.*—Thinks the northern passage would be taken more frequently if it were better known, *ib.*—Fogs frequent in the channel, particularly during westerly winds, 171.—Neglecting the proper precaution of having a sufficient look-out, and from not showing lights, the causes of most of the accidents in the channel, *ib.*—Further evidence relative to the soundings off Galway, *ib.*—Thinks time would be gained by taking the northern passage to Liverpool, compared with the uncertainty attending the approach to Galway, *ib.*—Does not believe the mails would be delivered five hours earlier at Galway, *ib.*—Assuming this time to be gained with Irish letters, it would not extend to English correspondence, which would be delivered no earlier than at present, *ib.*—Soundings off Tory Island, *ib.*—Advantage of making Tory Island and taking the northern passage, *ib.*—Evidence as to the navigation of the approach to the north of Ireland, 172.—The sea here is dangerous for small vessels but not for large ones, *ib.*—The opinions of the officers of the British packets entirely against the proposed transfer of the Packet Station from Liverpool, *ib.*—They considered the transfer to the west of Ireland would impose great additional labour and responsibility upon all on board, *ib.*—Witness of opinion that the mails could not be landed with certainty at any port on the west coast of Ireland at all times and in all weathers, *ib.*—Mr. Church, to whom witness refers the Commissioners as an officer of great practical experience, of the same opinion relative to the dangers of this coast, *ib.*—A port of call objected to on the south-western coast, on account of the heavy sea and the consequent uncertainty attending the landing or embarking the mails, 173.

Berehaven:—
I. Description of:—
1. *Generally.*—A splendid harbour, and easy of access, *Hall*, 13.—A fine, capacious and safe anchorage, *Church*, 15; *Rish*, 20.—There is no port in the United Kingdom equal to Berehaven, *Hungerford*, 26.—It is very capacious, and has good holding ground, *Wingrove*, 60.—It is capable of holding any number of vessels in smooth water, and affords great facilities for ingress and egress, *Hungerford*, 26.—It is perfectly secure, and land-locked, and easy of access by day, *Brown*, 61.—A good harbour, but ought not to be attempted at night on account of the narrowness of the entrance, *Driver*, 58.—A spacious harbour, with sufficient water for any ship, having from 6 to 12 fathoms all over, *O'Malley*, 78.—An excellent harbour, *Caffin*, 12; *Evans*, 123; *Jones*, 82.—A very excellent harbour, especially for steamers, *Smith*, 68.—A fine harbour within, but difficult of approach, *Goss*, 69.—The entrance from the Atlantic of considerable width and great depth, having 19 fathoms throughout, *Marmion*, 34.—Its west entrance, in day time and clear weather, sufficiently safe for a transatlantic steamer, *Church*, 15.—An excellent harbour and well sheltered, and may be run for by day in any weather, *Caffin*, 62.—It is not safe for a large vessel, nor for a small one without a pilot, *O'Malley*, 78.—The value of the east entrance much depreciated by the dangerous group of rocks called the Carrigaveildra, *Church*, 15.—The east entrance safe to approach by day or night, *Burke*, 77.—It would not be prudent to run for this harbour at night without lights, *Church*, 15.—Berehaven has depth of water at all times of tide for vessels of any size, and is capable of affording shelter in all weathers, *Ladd*, 66.—It is the best harbour in Europe, *Bower*, 67.—This harbour very safe, easy of access, and fit to contain a fleet of the largest ships in Her Majesty's Service, *Browne*, 81; *Hutchinson*, 82.—A large fleet of line-of-battle ships could ride here in perfect safety in all weathers, *Burke*, 77.—This port most eligibly situated for intercourse with America, the West Indies, the coasts of Spain and Portugal, the Mediterranean, the ports of England, and the south and east of Ireland; and lies in the course of vessels trading to and from these parts with America, *Marmion*, 34.—In clear weather, would run for this port on the homeward voyage in preference to any other on the south or west coast, *Laen*, 59.

Berehaven—Description of, *continued.*
2. *Lights and Headlands.*—The approach from the ocean is free from danger, and the neighbourhood easily recognised, *Church*, 14.—It is safer from the south-west than from the west, along the Dursey shore, *ib.* 15.—Coming in from westward, the conspicuous high islets called the "Bull," "Cow," and "Calf," off Dursey Head, are seen, *Church*, 14.—From the south-west "Mizen Head," "Three Castle Head," and "Sheep's Head," come into view, *ib.* 15.—At night, when steering for the Mizen, the Fastnet-light should be sighted on the starboard bow, *ib.* 15.—Vessels from America would make the Skellig Lights, the Bull, Cow, and Calf, and then open upon the red light on Bora Island, *Ladd*, 66; *Hungerford*, 25.—There is no sea light at present, *Church*, 15.—The eastern entrance has a light; but it is difficult to make it out in dark hazy weather, *Plunkett*, 56; *Burke*, 77.—The western entrance is narrow, but bold, with a bright red light on the island side, and a green one near Castletown, as a leading light to the anchorage, *Ladd*, 66.—The west entrance is narrow, and requires a leading wind to pass through, *Burk*, 77.—The headlands are bold and well defined, *Irwin*, 84.—The west entrance in day time and clear weather is sufficiently safe for a transatlantic steamer; but at night, moderately fair weather and a light are indispensable, *Church*, 15.—This port exceedingly difficult to make, owing to the prevalence of misty, foggy, weather, and the sameness in the appearance of the land, *Aylen*, 41.—It may be confidently approached at all seasons of the year, and in any state of the weather, *Hungerford*, 25; *Goss*, 69.
3. *Rocks, Shoals, &c.*—The value of the east entrance lessened by the dangerous group of rocks called the "Carrigavaddra," which lie half a mile off its east point, *Church*, 15.—The west entrance is full of rocks, *O'Malley*, 78; *Burke*, 77.—The dangers are the reefs in the eastern entrance, and the rocks in the centre of the western passage, *Scott*, 84.—The Harbour Rock, one-third of a mile inside the narrows of the west entrance, and nearly in the fair way, has only 11 feet of water over it at low water springs; it is marked with a buoy, *Church*, 15.—This the only danger of the western entrance, *Brown*, 61.—There is not a rock all the way up to Whiddy Island anchorage, *Evans*, 133.
4. *Anchorage Ground, Depth of Water, Facilities for Landing, &c.*—The anchorage is perfectly secure, and land-locked, and easy of access by day, *Brown*, 60.—A very safe anchorage, *Dunlop*, 59.—The harbour is capacious, and holding-ground good; but the water not at all times very smooth, *Wingrove*, 60.—The anchorage much exposed in easterly winds, *Pearce*, 72.—It has perfectly smooth water, and good holding-ground, *Irwin*, 84.—The anchorage is very good and smooth, and mails and passengers could be landed by boats in all weathers, *Church*, 17; *Hungerford*, 25; *Rish*, 20.—The anchorage best off the town of Bantry, *Aylen*, 62.—Anchorage perfect, deep water, good holding-ground, and without tide or current, *Hungerford*, 25.—It is never subject to a heavy sea, being sheltered from every wind; and with excellent holding-ground, *Paxley*, 280.—It is subject to heavy squalls from the proximity and shape of the mountains, *Pearce*, 72.—It has depth of water at all times of tide for vessels of any size, and affords shelter in all weathers, *Ladd*, 66; *Irwin*, 84.—The holding ground is good, being mud mixed with shells and, *Church*, 15; *Carter*, 70.—Lawrence's Cove, in Bare Island, a natural basin, with water alongside sufficient to heave down a three-decker, *Evans*, 137.—It has a wild roadstead; and if a pier were built, no vessel could lie alongside except in very fine weather, *Randall*, 270.—It is spacious, well sheltered, deep water, and good holding-ground, *Kelly*, 71.—It has sufficient water for any ship, having from 6 to 12 fathoms all over, *O'Malley*, 78.—It has 2,900 acres, with from 6 to 15 fathoms at low-water springs, and 1,900 acres with more than 6 fathoms at low water, *Marmion*, 34.—Mails and passengers could be landed in all weathers, day or night, *Rish*, 20.—Does not know a more inconvenient roadstead than Berehaven, except that it is sheltered from the sea, *Denham*, 147.—Knows of no part along the northern margin east of Castletown where wharves could be built, *ib.* 147.—Abreast of Castletown the margins are too irregular and flat to admit of wharf extension into 20 feet water, *ib.* 147.

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BEREHAVEN—Description of, *continued.*

5. *Docks, Wharves, Piers, and Jetties.*—There are no wharves or docks; but the place possesses great advantages for the construction of such works, *Hungerford*, 25.—There are neither docks nor wharves, nor any conveniences for passengers, *Rush*, 20.—The rocky beach forms a complete wharf, alongside of which a vessel may moor in more than 6 fathoms of smooth water; and the passengers may step directly on shore, *Marmion*, 35.

6. *Repairs of Machinery and Vessels, Accommodation for Passengers, &c.*—It is quite barren of resources essential to a packet station, *Caffin*, 12.—There are no means of any kind for the repairs or maintenance of the packets and their engines, boilers, &c., *Rish*, 20.—Small repairs might be done here, *Church*, 17.

7. *Price of Coal, and Mode of Coaling, &c.*—Coal is difficult to be obtained, and has to be imported, *Rish*, 20.—It is now imported in small quantities; but if a packet station were established, the vessels now taking copper ore to Swansea, and coming back empty, would bring a return cargo of coals, *Hungerford*, 25.—Coals may be had at 15*s.* or 16*s.* a-ton, *Church*, 17; *Hungerford*, 26.—Coaling would be done by means of a hulk moored alongside, *Church*, 17.

8. *Inland Communications.*—The communication inland from Berehaven is confined to the daily mail car, on horseback to and from Bantry, and the carriage of butter in carts, &c., to Cork, *Church*, 18.—The country eastward of Berehaven, round the head of Bantry Bay, is mountainous and rugged, opposing formidable obstacles to the construction of a railroad, *ib.* 18.—When a railway communication is effected with Mallow, despatches from the Admiralty could reach Berehaven in 16 hours from London, *ib.*—The night mail leaves London at 8 P.M., and arrives at Castletown at 8·50 P.M. the next day but one, *Maberly*, 87.—It leaves Castletown at 3 A.M., and reaches London at 5·18 A.M., on the next morning but one, *ib.* 88.

9. *Pilotage.*—There are no professed pilots; but the fishing-boats are often met with outside, southward of Bleck-hull Head, *Church*, 18.—The men are good pilots for Berehaven, *ib.* 18.

II. ITS ADVANTAGES FOR A PACKET STATION:—
It is well situated for clearing land and making an offing, *Church*, 14—The approach from the Ocean is free from danger, and its neighbourhood is easily recognised, *ib.* 14; *Hungerford*, 25.—It is a most capacious and excellent harbour, with good holding-ground, *Rish*, 20.—It is in a direct line for transatlantic packets from England; and, being the very farthest point of departure, avoids a long and difficult sea voyage, *Hungerford*, 25.—It is the nearest port between Europe and America, and the West Indies, *ib.* 25.—It possesses advantages not only over the other ports in Ireland, but, for general trade, is superior to Liverpool, or any port in the Channel, *Marmion*, 36.—It may be confidently and safely approached at all seasons of the year, and in every state of the weather, *Hungerford*, 25.—It possesses excellent qualifications for a port readily adopted to the formation of docks and quays, *Church*, 14.—It has greater advantages for a packet station than any of the other harbours on the south-west coast of Ireland, *Evans*, 133.—A trifling expense would make this the finest harbour in Europe, *Marmion*, 34.—The natural advantages are very great, *Evans*, 133.—For the accommodation of a large number of vessels there is nothing equal to Berehaven, *Puxley*, 230.—It is of great capacity, smooth water, little tide, and could be taken at all times by a steam-ship, *Carter*, 70.—Spacious, well sheltered, deep water, and good holding-ground, *Kelly*, 71.—The harbour is spacious and safe of approach by the east entrance, day or night, *Brooke*, 77; *Browne*, 81; *Irwin*, 84.—Mails and passengers could be landed in all weathers, day or night, *Rish*, 20.—It may be entered by day or night, *Cragg*, 85.

III. ITS DISADVANTAGES FOR A PACKET STATION:—
Too blind an entrance at night, or in thick weather, *Plunkett*, 56.—From its narrow entrance, it cannot be attempted at night, *Driver*, 58.—It is unfit for a packet station, *Aylen*, 62.—As a harbour of refuge it has serious defects, *Bedford*, 92.—The western entrance not better than that of Valentia, *ib.* 92.—It is difficult and dangerous, *Pearce*, 72.—The eastern entrance dangerous in certain winds, *Bedford*, 92.—It is too far up the bay,

BEREHAVEN—Its Disadvantages, &c., *continued.*

Pearce, 72.—Has rode heavily at the anchorage with both anchors down, *ib.* 72.—It is much exposed with the wind at the east, *ib.*—Nor could a disabled vessel prudently run for this port on all occasions, *ib.* 92. It would be highly dangerous to run for Berehaven in a heavy gale in thick weather, if the exact position of the vessel were not known, *Rish*, 20.—It is on a lee shore, has a narrow entrance and wild roadstead, *Randall*, 270; *Carrol*, 272.—The outward passage would be commenced with a bay 37 miles in depth, and, with the prevalent winds, on a lee shore, *Fitzgerald*, 259.—Its distance, at the extremity of Ireland, 250 miles from the capital, and the difficulties in constructing a railway to Bandon, are serious disadvantages, *Bedford*, 12.—It is surrounded by high rocky land, which would make the communication with Dublin difficult and expensive, *Hall*, 13.—The line of country eastward of Berehaven is mountainous and rugged, and opposes formidable obstacles to the formation of a railroad, *Church*, 18.—It is exceedingly difficult to make in consequence of the prevalence of misty and foggy weather, and the sameness in the appearance of the land, *Aylen*, 41.—The entrance ought not to be attempted at night, *Driver*, 58.—Would prefer Cork to Berehaven in thick weather, *Lacy*, 59.—Both entrances of Berehaven bad, and difficult to find, especially from seaward, in thick weather, *Wingrove*, 60; *Goss*, 69.—At present it is without docks, wharves, or railroads, or any means to expedite the conveyance of the mails, passengers, and goods to the capital, *Rish*, 20.—It has at present no conveniences for a packet station, *Evans*, 133.—If a pier were built, no vessel could lie alongside, except in very fine weather, *Randall*, 270; *Carroll*, 270.—There are no means of any kind for the repairs of machinery, &c, *Rish*, 20.—Coal is difficult to be procured, it has all to be imported, *ib.* 20.—Berehaven would require a large outlay to make it fit for a packet station, *Randall*, 74.

IV. IMPROVEMENTS AND WORKS REQUIRED:—
Wharves, Docks, &c.—It is without docks or wharves, or any conveniences for a packet station, *Rish*, 20; *Evans*, 133; *Jones*, 82.—It would require a large outlay to make it fit for a packet station, *Randall*, 74.

Lights.—A light at the west entrance of Berehaven must be put up before it can be safely entered at night, *Church*, 14, 15; *Evans*, 133.—To make the west entrance quite safe at night, a light-ship should be moored outside the Carrigavaddra rocks, when the light on the Roancarrig islet should be removed, *Church*, 16.—With a light on Bere Island, the harbour could be safely taken at night, *Brown*, 61.—A light on the Bull rock would facilitate the entrance into the bay, *Aylen*, 41.—A light on Bere Island is wanted if the harbour is made a packet station, *Irwin*, 84.

Railway.—The cost of a railroad to connect Berehaven with any of the lines now in operation, estimated at a million sterling, *Bedford*, 92.—Mr. Nixon, C.E., estimates the cost of a railroad from Bandon to Berehaven, 64 miles, at 642,750*l.*, *Washington*, 132.

Bernard, Viscount, M.P. (Analysis of his Evidence).—The advantages of Crookhaven, Long Island Channel, and Dunmanus Bay for a Packet Station arise from their being in the direct route to America, 202.—The new lighthouse now being built on the Fastnet rock, four miles out in the sea, will be first seen in making either of these harbours, *ib.*—Neither Long Island Channel nor Crookhaven would require any great outlay to fit them for Packet Stations, *ib.*—Cork an advantageous place for a port of call, whether Holyhead or Liverpool are selected for the permanent station, *ib.*—Time gained by making Cork a port of call compared with the gain by selecting one of the ports on the south-west coast, *ib.*—The country between Cork and Crookhaven affords facilities for making a railroad; 40 miles would have to be made, *ib.*—New lights are being put up and the old ones improved on the south and west coast of Ireland, 203.—By making one of the harbours on the south-west coast a port of call, Irish letters would be carried out and received earlier than at present; it would also benefit the port selected, *ib.*—Crookhaven very much used at present as a place of refuge, *ib.*—Prefers the harbours on the south-west coast to those on the Shannon or Galway on account of their greater proximity to America, and being the land first made in coming

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Bernard, Viscount—continued.
from America, *ib.*—Repairs to steamers could be done at Cork, but at present at none of the other harbours, *ib.*—Coal tolerably cheap on the south-west coast, being, with freight, about 12*s.* a ton, *ib.*—Thinks great improvements might take place in the Post-office arrangements in Ireland, *ib.*—Present rates on various railways in Ireland, *ib.*

Bold, Mr. (For Analysis of his Evidence, *see* LITTLETON and BOLD).

BRITISH AND NORTH AMERICAN ROYAL MAIL STEAM-PACKET COMPANY:—
This Company was established in 1840, and have contracted with the Government for the conveyance of the American mails up to the present time, *Cunard*, 124; *Arnauld*, 244.—They receive 145,000*l.* a-year for the conveyance of the mails, *Cunard*, 124.—The postage received quite equals this amount, *ib.* 124.—Statement of the accounts of this Company for 1849, *ib.* 228.

BRITISH AND NORTH AMERICAN ROYAL MAIL STEAM PACKETS (Cunard's Line):—
This line of packets, known as Cunard's line, established in 1840, now consists of seven vessels and two building, *Arnauld*, 244.—Return of the names of these packets, their tonnage, horse power, dimensions, times of sailing, and rates of freight and passage, 244.—Witness's first contract with the Government was, to perform the service twice a-month, with three vessels of 300-horse power *Cunard*, 123.—Larger and more powerful vessels subsequently found to be necessary, *ib.* 123.—Their power and capacity have been gradually increasing for years past, and their speed is equal to any ocean steamers in the world, *MacIver*, 55.—Two new ships are building of a still more superior class, *ib.* 55.—In the last few years four ships of 700-horse power, costing 360,000*l.*, have been built; and last year, two more ships of 800-horse power, and costing 200,000*l.*, were built; and there are now building two ships of 1000-horse power, which will cost 220,000*l.*, *Cunard*, 124.—The postage upon letters sent by the British packets in 1850 amounted to 124,191*l.* 10*s.* 10½*d.*, exclusive of the bags made up in London for America, and of those opened in London, *Maberly*, 242.—Messrs. Cunard now contract, to keep up eight vessels, but they have generally nine, *MacIver*, 38.—Their vessels are built in the Clyde, at Greenock, and at Port Glasgow, *ib.* 96.—The engines and boilers are made and put on board at Glasgow, *ib.* 96.—Their width between the paddle-boxes is 65 feet, *Bevis*, 97.—Ordinary repairs done at Liverpool; but for extraordinary repairs, such as new boilers, &c., the vessels are sent to the makers in the Clyde, *MacIver*, 96.—The chief repairs are done in England and Scotland, *Cunard*, 126.—Heavy repairs sometimes done at Liverpool, when there is not time to send the ship to Scotland, *ib* 126.—The vessels are frequently put into the graving dock for examination and repair, *ib.* 126.—Except at such times they always lie afloat in the wet docks, *ib.* 126.—No repairs ever done at any foreign port, except by the engineers attached to the several vessels, *MacIver*, 96; *Cunard*, 126.—Occasionally repairs, to a small extent, have been done at New York, Boston, and Halifax, *ib.* 126.—The British packets leave Liverpool every Saturday, from April to November; and every alternate Saturday in the other months, *Maberly*, 88.—They proceed alternately to New York direct, and to Boston *viâ* Halifax, *ib.* 88.—The time of departure varies with the state of the tide, *ib.* 88.—They get into the stream sometimes two or three days before departure, but always one day before sailing, and at high water, *Cunard*, 126.—They cannot sail at fixed hours, on account of the bar, *ib.* 127.—The present steamers draw 21 feet of water, and the new ones will draw 22 feet, *ib.* 129.—Cunard's the only mail packets which call at Halifax, *Maberly*, 88.—Detention from fog greater at Halifax than in the Channel, *Cunard*, 129.—These vessels average 11 miles on the outward voyage, and 11½ on the homeward voyage, *Caffin*, 13.—Statement of the average rate per hour performed in four outward and four homeward voyages, in August and September, 1850, *MacIver*, 39.—Return of the speed of the several vessels of this Company, upon a series of voyages outwards and homewards, *Bevis*, 247; *ib.* 251.—Such statements do not indicate the power of the vessel to maintain, under different circumstances, far greater speed, *ib.* 55.—From the dangers and difficulties of the North Atlantic service, speed should be considered as a relative term for prudence and safety, *ib.* 55.—Thinks 11 miles an hour may be safely calculated upon as the average on the outward and homeward passages, *MacIver*, 55.—They are frequently seen passing Cork harbour in seven days from Halifax, *Shea*, 122.—On some voyages the new vessels have gone 12½ knots an hour for the whole passage of 3,100 miles, *Cunard*, 127.—Anticipates the new vessels will go about 13½ knots an hour, *ib.* 127. They steam from Liverpool, deeply laden, to Cape Clear in 24 hours, *Caffin*, 13; *Bevis*, 39.—Return showing the time at which the British mail packets left Victoria Channel, and arrived abreast of Cape Clear on the outward voyage; and also showing the time of arrival abreast of Cape Clear and at Victoria Channel, on the homeward voyage, in 1850, *ib.* 251.—Between Cape Clear and Holyhead the average rate is about 12 knots outward, and 13 knots on the homeward passage, in fine weather, *MacIver*, 104.—The progress of the vessels on this part much the same as during the remainder of the voyage, *ib.* 104.—In fine weather it is even greater than on the Atlantic, owing to shelter and smooth water, *Cunard*, 129.—Very little detention ever occurs in the Channel, *ib.* 129.—In thick weather they slacken speed, and sound; but the coast is well lighted, and they can get along without difficulty, *ib.* 129.—Has never known one of the large steamers laid-to on account of a heavy sea, *ib.* 128. One of the small steamers once brought-to on this account, *ib.* 128.—The paddle-boxes have never been washed away, *ib.* 128.—They carry coals sufficient for 6,000 miles steaming, *Caffin*, 13.—They have coal sufficient for a voyage to the Cape of Good Hope, *MacIver*, 55.—Welsh coal, chiefly from Cardiff or Newport, used on board these boats, *Belcher*, 31.—This coal averages 9*s.* a ton, *ib.* 31; *Marmion*, 35.—This coal preferred from its greater density, as it occupies less space, *Belcher*, 31; *MacIver*, 96.—It varies in price according to the season of the year, *ib.* 96.—From 15*s.* to 18*s.* the price of Welsh coal on board at Liverpool, *ib* 96.—Cunard's Company have been paying 21*s* a ton for their supplies of coal, *Marmion*, 35.—The average consumption of coal estimated at 3 or 3½ tons per hour during the voyage, *MacIver*, 104.—They are very fine vessels, the "Europa," a perfect model of a steamer, *Archibald*, 169.—The two ships built last year are about 270 feet between the perpendiculars, the two now building are 285 feet, *Cunard*, 235. Opinion in commendation of the general management of this service, *Chapman*, 218.—Should deprecate any material change in a system which has worked so admirably and succeeded so well, *Maxwell*, 220.—The packets come in with the regularity, almost, of a mail coach, *ib.* 220

Passengers.—Very few passengers from Ireland embark on board these vessels, *Cunard*, 125.—Witness has met with very few Irish gentlemen on board during the various passages he has made, *ib.* 125.—The great proportion of passengers are Americans, and persons from the Continent, *ib.* 125.—First-class passengers outwards are charged 35*l.*, steerage 20*l.*; and first-class homewards, 25*l.*, and steerage, 25*l.*, *MacIver*, 38.—No extra charge made for passengers' luggage, *ib.* 38.

Freight.—The freight is a very large item in their earnings, which would be lost if the station were transferred to Ireland, and pass over to the American steam-ships, *Cunard*, 124.—Produces, for the information of the *Commissioners*, return of freight on each voyage in 1849 and 1850, showing how large an item it forms in their accounts, *ib.* 124.—The rate of freight having been recently reduced, the quantity is expected to be greatly increased, *ib.* 124.—Heretofore the freight has consisted chiefly of light and valuable goods, but bulky articles will be shipped when the reduced rate comes into operation, *ib.* 124.—The charge for cargo has varied from 7*l.* to 3*l.* a ton, *MacIver*, 38.—The manufactures of Paisley and Glasgow (fancy muslin trade) are charged 6*l.* or 7*l.* a ton, *Maxwell*, 216.—The large steamers will carry 800 or 1,000 tons of goods, *Cunard*, 128.—The very high rate of charge made by the Cunard Company for freight almost prohibitory, except under peculiar circumstances, *Perry*, 153.—The freight consists of fine manufactured goods, chiefly from Lancashire and Yorkshire, *MacIver*, 38.—British goods chiefly come from Manchester, Birmingham,

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British and North American Packets, &c.—*continued.*
Sheffield, Yorkshire, London, Glasgow; and foreign goods from Hull, Southampton, and Havre, *Cunard*, 125.—A small quantity of linens come from Belfast, *ib.* 125.—A very small quantity, as the charge of 7*l.* a ton for freight, added to the freight of 1*l.* a ton from Belfast to Liverpool, make it almost prohibitory, except under very peculiar circumstances, *Perry*, 153.—Considerable quantities of foreign goods have been shipped by these vessels since the repeal of the Navigation Laws, *MacIver*, 38.—The homeward cargo does not average 50*l.* a voyage, *ib.* 38.—The higher rate charged for freight by steamer more than compensated by the shortness of the passage and saving on insurance, *Cunard*, 124.—The premium, by Cunard's vessels, about 10*s.*; by an American line ship (sailing-vessel), 25*s.*; being a saving of more than 100 per cent., *ib.* 124.

Brunel, Isambard Kingdom, Esq. (Analysis of his Evidence):—Is of opinion that no advantages would arise from a Packet Station in Ireland, but on the contrary, considerable inconvenience and expense, 149.—Thinks no time would be saved by such an arrangement, *ib.*—The arrivals would be more uncertain than at present, the arrivals in London from a western port would be later, *ib.*—The probable speed of Atlantic steam-ships should be considered in calculations as to gain a loss of time by new arrangements, *ib.*—Thinks the speed of these large steamers may be increased to 16 or 17 knots an hour, *ib.*—Does not agree with the evidence of those gentlemen who could build a steamer to run 2,200 miles at such a speed but not more, *ib.*—The "Great Britain" had power to run 17 knots, and could very easily have gone to America, and half way home again without any inconvenient cargo, 150.—Does not contemplate a steam vessel for passengers and mails only, but one to carry as much cargo in proportion as the present packets, *ib.*—Particulars of the calculations made by witness relative to the comparison between an English and an Irish south-western port, *ib.*—Time by express train from London to Holyhead, to Plymouth, Falmouth, and Milford Haven, and from Dublin to Berehaven, assuming the railroads to be completed to these places, *ib.*—The increased time from London to Berehaven, as compared with Holyhead, will be 11 hours and 15 minutes; as compared with Falmouth, 9 hours and 55 minutes; as compared with Plymouth, 12 hours and 5 minutes; as compared with Milford Haven, 11 hours and 35 minutes, *ib.*—The saving of the distance in the sea voyage from America to Berehaven, as compared with these different places, will be, in nautical miles, 240 miles shorter than Holyhead, 280 miles shorter than Falmouth, about 260 miles shorter than Plymouth, and only 185 miles shorter than Milford Haven. With a speed of 15 knots an hour, and assuming Berehaven as accessible as the other ports, the saving at Berehaven over Holyhead would be four hours and 55 minutes; over Falmouth, five hours and 20 minutes; over Plymouth, five hours and five minutes; and over Milford Haven only 45 minutes, 151.—If 18 knots an hour be run at sea, then the only saving at Berehaven, under the most favourable calculation, would be two hours and five minutes over Holyhead; two hours and 46 minutes over Falmouth; two hours and 11 minutes over Plymouth; and, as compared with Milford Haven, there would be a loss of one hour and 19 minutes, *ib.*—The approach to Milford Haven freer from danger and more accessible than any port on the west-coast of Ireland, *ib.*—The saving of time by making Berehaven the Packet Station would be lost in more than half the number of home voyages on account of the difficulties of the coast, *ib.*—Believes that, apart from any calculation of distance, on the average of voyages, the vessel would make Milford Haven as soon as she would make a port on the south-west of Ireland, particularly when high speed is attained, *ib.*—The expense of using an Irish port as the final port for the vessel would be very great; the distance from all machinery and supplies of every sort would be very expensive, *ib.*—Milford is in close communication with iron and coal districts, *ib.*—The best steam coal might be brought by railway to the ship's deck, and the largest iron-works in England are at Merthyr, *ib.*—Chain cables, steamboat engines, &c., made in the vicinity, *ib.*—Advantages of Milford in respect of docks, *ib.*—Believes that any steamer from an English port for America would completely deprive the other of

Brunel, I. K., Esq.—continued.
passengers or cargo, *ib.*—Thinks there would be no chance of competition, *ib.*—Believes that scarcely any passengers would go by the Irish packet except Irishmen, *ib.*—Thinks the packets from Milford might compete advantageously with those from Liverpool, 152.—Thinks both lines would answer very well, *ib.*—Believes that the Milford packets would command their full freight, *ib.*—It would have an advantage over Liverpool in passengers for America from London, *ib.*—Further evidence as to the probable extent of goods which might be shipped from Milford for America, *ib.*—Thinks Holyhead a better port than Liverpool for the Packet Station, *ib.*—If Holyhead were made a port of call only, the packets still starting from Liverpool, thinks after a few months' practice it would end in their not going to Liverpool at all except for repairs, *ib.*—Extensive works would be required at Milford if it were made a Packet Station, *ib.*—Evidence as to the dock and railway accommodation at Falmouth and at Plymouth for a Packet Station, *ib.*—Considers Galway out of the question as a Packet Station on account of the harbour, but more particularly on account of the approach to the harbour, 153.

Cape Canso, Nova Scotia.—(*See* Whitehaven.)

Channel Navigation.—(*See* St. George's Channel.)

Chapman, Mr., for Analysis of his Evidence, *see* Maxwell and Chapman.

Chester and Holyhead Railway.—Proposed extension from the railway terminus to the packet pier:—
Plans and sections are lodged for an extension from the present terminus to the packet pier, and for additional accommodation for steam-boats, *Chester and Holyhead Railway Company*, 55.

City of Dublin Steam Packet Company:—
A double line of steam communication between Kingstown and Holyhead maintained daily, by four vessels, for conveyance of mails and passengers, *Howell*, 237.—Names of vessels and of their commanders, time of starting from Holyhead and from Kingstown, and statement of fares charged, *ib.* 237.—Price per ton paid by this Company for their coal, *Clark*, 243.

Coal for Steam-vessels:—
1. *Description and Cost of, used on board Transatlantic Packets.*—Welsh coal, from Newport and Cardiff, chiefly used for the British mail steamers, *Belcher*, 31.—Welsh coal preferred, as, from its greater density, it occupies less space, *ib.* 31; *MacIver*, 96.—The superiority of British steamers attributed, at one time, by the Americans, to the use of Welsh coal, *Belcher*, 31.—Coal varies in price according to the description used, *MacIver*, 96.—Cunard's Company have been paying 21*s.* a ton for coal for their vessels, *Marmion*, 35.—The supply of Welsh coal uncertain; the price at Liverpool varies with the season of the year, from 15*s.* to 18*s.* a ton, *MacIver*, 98.—The sufficiency of cargo influences price, *ib.* 96.—Welsh coal averages 9*s.* a ton, *Belcher*, 31.—9*s.* a ton the price at Cardiff, *Church*, 18.—The freight to the south-west coast of Ireland 6*s.* a ton in addition, *ib.* 18.—The supply of Lancashire coal is unlimited, and easily obtainable; it costs, alongside, at Liverpool, from 10*s.* to 11*s.* per ton, *MacIver*, 96; *Belcher*, 31.—This coal quite as good for steaming as the Welsh coal, but occupies more space, *MacIver*, 96.—Lancashire coal can be procured for 8*s.* a ton, *Belcher*, 31.—Description of coal best suited for steam-vessels and long voyages, and cost thereof at various ports, *Clark*, 243.

2. *Description and cost of, if obtained from Cork or any port on the West Coast of Ireland.*—Welsh coal chiefly used in the south and west of Ireland, *Mulvany*, 183.—There is very little coal in Ireland, *ib.* 183.—The Arigna coal-mines not at present worked to any extent, *ib.* 183.—No reliance should be placed upon getting any local supply southward of the Shannon, *ib.* 184.—The best coal from South Wales costs about 8*s.* or 9*s.* a ton at the port of shipment, *Mulvany*, 183.—With a return cargo the freight would be, to Valentia, about 14*s.* or 15*s.* a ton, *Knight of Kerry*, 183.—To Limerick it would be 10*s.* a ton, *Long*, 183.—Thinks about 15*s.* or 16*s.* a ton the average price of good coal for steaming, *Church*, 18.—The contract for the workhouse at Galway has been taken at 14*s.* and 15*s.* a ton, *Mulvany*, 183.—Price of coal

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Coal for Steam Vessels—*continued.*
at the western ports increased by the difficulty of getting a back freight, *Church*, 18; *Kemble*, 27; *Mulvany*, 183.—Has no reason to believe that Irish coal could, for quality and price, compete with the steam coals of Great Britain in the ports of Ireland, *De la Beche*, 236.—The anthracite coal of Limerick, Clare, and Kerry, may be delivered at Foynes and Torbert, at 5*s.* or 6*s.* a ton, *Long*, 312.

Cork:—

I. Description of:—

1. *Generally.*—Is well known as one of the best ports in the United Kingdom, *Norcock*, 29.—It has an excellent outer and inner harbour, *Caffin*, 12.—A good harbour in every respect, and, when made, may be entered under almost any circumstances, *Wingrove*, 60.—A safe and capacious harbour, and approachable in a steamer when the land can be made out, *Brown*, 60, *Church*, 14.—It can be entered in all weathers and at all times, day or night, and is easy of access, *Rish*, 20.—No harbour in the kingdom has a safer entrance, *Church*, 14.—One of the finest harbours in the world, and easy of access, *Aylen*, 61.—It has excellent anchorage, and is easy of access at all times, *Lowe*, 57.—A very good harbour, *Driver*, 58.

2. *Lights and Headlands.*—Cape Clear Light once seen, the remainder of the voyage is performed in perfect safety, *Marmion*, 34.—Cape Clear should always be made on the homeward voyage, and the run up to Cork would be made in perfect safety, and in comperatively smooth water, *Shea*, 51.—Cape Clear at present would be the first light sighted, but Fastnet when put up; the Old Head of Kinsale next, and lastly, the light, or Roche's Point, east side of the harbour entrance, *Church*, 15.—Inside the herbour is a light-vessel, moored off the point of the Spit Bank; this is to be substituted for a screw-pile lighthouse, *ib.* 15.—*Turnour*, 21.—Cape Clear, or the Old Head of Kinsale, according to the weather and state of the atmosphere, the first lights seen, *Hagan*, 23.—These lights render Cork Harbour at all times free from dangers, and accessible to steemers in all winds, and at any time of tide, *Hoare*, 28.—Coming from the westward, bound for Cork, the lights shown are Cape Clear, Old Head of Kinsale, and the harbour lights, *ib.* 29.—Coming from eastward, Ballycotton or Roche's Point, *ib* 29.—In approaching Cork after getting into soundings, is, first, the Fastnet (lighthouse building); five miles further on, Cape Clear; and 20 miles further, the Gally Head (building); and then 16 miles further, the Old Head of Kinsale; and, lastly, the Harbour Point-light, 15 miles on, *Denham*, 148.

3. *Rocks, Shoals, &c.*—The Daunt Rock has 14 foot of water at low water, *Hoare*, 28.—Daunt's Rock, off Robert's Head, has 12 feet water over it at low-water springs, *Church*, 14.—It is marked with a buoy, *ib.* 14.—The Harbour Rock at the entrance has at one spot only 15 feet water over it at low-water springs, *ib.* 14.—It is buoyed, and there is a broad and deep passage on each side of it, *ib.* 14.—The Harbour Rock and Turbot Bank are the shoals to be avoided, both are buoyed, and there is a safe passage on either side of them, *Burke*, 77.

4. *Anchorage Ground, Depth of Water, Facilities, for Landing, &c.*—Queenstown now affords every facility for embarking and landing passangers, *Hoare*, 29.—A lumber jetty is to be erected here, alongside which vessels drawing 25 feet of water may lie in all weathers, and at all times of tide, *Hagan*, 23.—The anchorage outside off Passage is good for ships of any size and draft, *Church*, 16; *Hoare*, 29.—There is sufficient depth of water even at the lowest neap tides, for the largest class of transatlantic steamers to proceed up to Passage, *Shea*, 49.—A jetty 15 feet from the pier would be sufficient for a vessel drawing 19 feet water, *Hagan*, 122.—A line-of-battle ship with all her stores could lie there, *Hardy*, 123.—Passage is quite land-locked; with a gale of wind outside, it would be quite smooth alongside the wharf, *Hagan*, 123.—The passage of large steamers from the outer roads up to Passage sometimes subject to much embarrassment at night, from the number of vessels at anchor, *Church*, 16.—The mails can be landed in all weathers, *Rish*, 20.

5. *Docks, Wharves, Piers, and Jetties.*—There are two docks for the repair of vessels; one at Passage, two miles above Queenstown, and the other at Cork, *Hagan*, 24.—There is no wharf, except that belonging to the Government at Haulbowline, alongside of which a vessel, drawing 19½ feet of water, could always lie afloat, *Church*, 16.—At Passage there are two private wharves at which vessels of this draft could lie afloat at high-water springs, with a bottom of soft mud under her, *ib.* 16.—These wharves are in a well-sheltered and safe position, and the anchorage outside of them is good for a ship of any magnitude and draft, *ib.* 16.—There are no floating-docks at Cork, or wharves capable of affording accommodaton to Atlantic steamers, *ib.* 16.—Dimensions and depth of water in Messrs. Brown's dock at Passage, *ib.* 17.—This will be enlarged in the course of the present year (1851), so as to admit steemers of the largest tonnage, *Hoare*, 29.—It is one mile and a-quarter from the anchorage, perfectly land-locked, and sheltered from all winds, *ib.* 29, *Marmion*, 35, *Church*, 17.—A proposal has been submitted to the Admiralty and approved, to make a dock at Passage large enough for the largest steemers, *Hagan*, 122, *Hardy*, 122.—This dock is to be constructed to admit vessels at high water drawing 25 feet water, *Hartly*, 122.

6. *Repairs of Machinery and Vessels, Accommodation for Passengers, &c.*—Without a dry dock, repairs could not be made to the bottom of a steamer, which could not be lightened to 13 feet, *Church*, 17.—Repairs and accommodation to a limited extent could be found in Cork, *Caffin*, 12.—There are several foundries for the repair of engines, boilers, &c., *Risk*, 20.—Ordinary repairs could be had in this port, *Hoare*, 29; *Marmion*, 35; *Shea*, 35.—There is a patent slip at Cork, and a building-yard for the construction of iron steamers, boilers, engines, &c., and ample accommodation for repairing them, *Hagan*, 24.—It has also warehouses, dry docks, dockyards, accommodation for repairing, victualling, and storing goods, *Marmion*, 35.—Cork and Queenstown afford ample accomodation for the number of passengers usually travelling by the Halifax boats, *Hagan*, 24; *Church*, 17.—The accommodation for storage at present limited to Queenstown and Passage, *ib.* 17.—Supplies of all descriptions may be obtained at reasonable rates, *Hoare*, 29; *Marmion*, 35.—All repairs to boilers or machinery could be done at Cork as well as at Liverpool, London, or in the Clyde, *Church*, 17.—The "Pelican," iron screw steamer of 800-horse, power was launched at Cork, and all her parts, boilers, machinery, &c., made on the spot, *ib.* 17.

7. *Price of Coal, Mode of Coaling, &c.*—Coals may be procured at from 18*s.* to 20*s.* a-ton, *Caffin*, 12.—Coal for steaming 15*s.* a-ton, *Church*, 17.—About 18*s.*, *Risk*, 20.—A greater demand would raise the price, from the difficulty of getting a back freight, *Caffin*, 12.—Best steam coal delivered on board, varies from 14*s.* to 15*s.* 6*d.* a-ton, *Hagan*, 23.—Average about 15*s*, *Hoare*, 29.—Hand-picked steam coals can be had for 15*s.* or 16*s.* a-ton, *Marmion*, 35, *Shea*, 49.—Welsh coal can be purchased in Cork cheaper than in Liverpool, from its contiguity to the coal districts, *Marmion*, 35, *Shea*, 49.—It is 5*s.* a-ton cheaper at Cork than at Liverpool, *ib.* 49.—The price of coal in Cork not influenced by back freight, as the coal trade is carried on independent of all other trades, *Hoare*, 29.—Coal for steaming, at Cardiff, costs 9*s.* a-ton, with 6*s.* for freight to Ireland, making the total cost about 15*s.* a-ton, *Marmion*, 35.

8. *Inland Communications.*—There is a railroad from Passage to Cork, and thence direct to Dublin, *Risk*, 20.—Passage Railway communicates every hour during the day with the harbour direct, *Hoare*, 29.—The railway between Cork and Dublin is now open; the Cork and Bandon Railway is nearly completed, and extensive and constant communications by carriages, coaches, and cars take place with all the principal towns, *Church*, 18.—Communication with London *via* Holyhead may be made in 16 hours, ordinarily in 18 hours, allowing five hours as an average passage between Holyhead and Kingstown, *Hoare*, 29.—Detailed statement relative to the railways in progress, and projected from Cork to Dublin and other towns, with relative distances, &c., *Marmion*, 35.—Cork, from its geographical position and extensive commerce, enjoys constant and rapid communication by steam with Bristol, Falmouth, Plymouth, and thence by rail or steam to London,

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CORK—Description of, *continued.*

Shea, 45.—The night mail which leaves London at 8 P.M., reaches Cork at 4 A.M. the next day but one, *Maberly*, 87.—The express day mail from London at 5 P.M., reaches Cork at 5 P.M next day, *ib.* 88.—The London day mail leaves Cork at 9·15 A.M., and reaches London at 1·30 P.M. the next day, *ib.* 88.—The London night mail leaves Cork at 7·45 P.M., and reaches London at 5·18 A.M. on the next morning but one, *ib.* 88.

9 *Pilotage.*—There are 110 branch pilots for Cork, with seven or eight fast pilot cutters of from 40 to 70 tons, *Church*, 18.—Some of these are always in the offing between Cape Clear and the Old Head of Kinsale, *ib.* 18.—They persevere in keeping at sea, and exhibit great emulation, *Hoare*, 28.—There are nine first-class pilot cutters, which generally reach some 30 miles westerly of the Gally Head, *ib.* 28.

II. ITS ADVANTAGES FOR A PACKET STATION:—

The only harbour in Ireland with facilities for the transatlantic service, *Caffin*, 12, *Hagan*, 23.—It possesses all the qualifications desired for a packet station, *ib.* 123.—It is the only harbour at present ready for receiving packets of the size of the transatlantic steamers, *Washington*, 130.—The best port in Ireland for a packet station, *Aylen*, 61.—It can be approached at any time, has a safe anchorage, and all the desired conveniences, *Hall*, 13, *Hagan*, 23.—It is the safest of all the harbours to run for under difficulties of weather, night, &c., *Church*, 14.—No harbour in the kingdom has a safer entrance, *ib.* 13.—Would run for Cork in the winter season in a steamer drawing 19½ feet water, in preference to any of the ports on the western coast, *Church*, 14, *Lowe*, 58, *Aylen*, 62, *Church*, 64, *Ladd*, 66, *Risk*, 67, *Turnour*, 69, *Kelly*, 71, *Goldsmith*, 81, *Bowne*, 81, *Jones*, 83, *Hamley*, 83, *Irwin*, 84, *Scott*, 85, *Hagan*, 86, *Rose*, 87.—Would prefer running for Cork with damaged machinery on the homeward voyage, to any western port, *Plunkett*, 56, *Lowe*, 57.—It is easy of access, and can be entered at all times and in all weathers, day and night, *Risk*, 20; *Tournour*, 21; *Hagan*, 23; *Aylen*, 61.—It is preferable to any of the ports on the western coast, *Risk*, 20.—It is completely fitted for a packet station, *Hagan*, 23.—It is better fitted for such a purpose than any of the ports on the western coast, *Norcock*, 29; *Hagan*, 23.—The best port in Ireland for a packet station, *Aylen*, 61, 41.—Cork can be entered when Liverpool could not be approached, *Turnour*, 21.—Cork has numerous advantages over Liverpool, *Hagan*, 23.—Regular soundings and deep water make this port safe, for a steamer under power to approach at any time, and in any wind, *Hoare*, 28.—Ireland would be greatly benefited, and the delivery of letters in England, even accelerated, *Murphy*, 120.—London letters *via* Cork would reach their destination six or seven hours sooner than by the Liverpool route, *ib.* 120.—Wharves are capable of being constructed in Queenstown or Passage for vessels of any draft of water to lie alongside at all times of tide, *Risk*, 20, *Turnour*, 22.—The mails could be landed at any time, day or night, *Risk*, 20, *Turnour*, 21.—Little if any additional outlay required to fit it for a packet station, *Shea*, 121.—There is a railroad from Passage to Cork, and thence direct to Dublin, *Risk*, 20.

III. ITS DISADVANTAGES FOR A PACKET STATION:—

It is a blind harbour to run for in thick or hazy weather, *Randall*, 73.—S. and S.S.W. the prevailing winds which almost always bring thick weather, and make the coast from Cape Clear to the Tuskar, a lee shore, *ib.* 73.—Decidedly objects to Cork as an American packet station, *ib.* 74.—It is easy of access in clear weather; but in thick foggy weather it would be dangerous to run for on account of the narrowness of its entrance, and the two rocks immediately inside the Lighthouse, *O'Malley*, 78.—No vessel could work in against an ebb tide; and with a strong southerly wind, no merchant vessel could beat out, on account of the heavy cross sea, *ib* 78.—It is an awkward port to run for from America, as there are more than 50 miles of dangerous coast navigation, after making Cape Clear, *Wingrove*, 60.—It has no dock sufficient for steamers drawing 19½ feet of water, *Caffin*, 12.—There is no wharf, except that at Hawlbowline belonging to the Government, at which vessels of the size required could lie afloat, *Church*, 16.

CORK—*continued.*

III. IMPROVEMENTS AND WORKS REQUIRED:—

Wharves could be made at Queenstown or Passage to allow vessels of any draft of water to lie alongside at all times of tide, *Risk*, 20.—A pier should be run out a Queenstown, at which vessels drawing 19½ feet of water could lay alongside afloat at low water springs, and land or embark passengers in any weather, *Turnour*, 22.—A sufficient timber wharf for landing and embarking could be easily made at Monkstown or Passage at very slight expense, both being close to deep water, *Washington*, 130.—A graving dock could be constructed at a very moderate expense on the Spit Bank, immediately eastward of the island, *ib.* 130.—Spit Bank the very place for a dock, *ib.* 132—A graving dock much wanted for the Queen's service, *ib.* 132.

CROOKHAVEN:—

I. Description of:—

1. *Generally.*—Crookhaven is situated on the most southern promontory of Ireland, inside Brownhead, a continuation of Mizenhead, and about 7 miles north-west of the Fastnet Light, *Marmion*, 34.—The harbour is long and narrow, with very little depth of water, *Ladd*, 65.—The entrance safe at all times for a steamer, *Church*, 64.—A safe harbour for small vessels, *Driver*, 58.—This place much frequented by transatlantic traders, being in the direct course between the coast of America and that of England, *Marmion*, 34.—It is at present used as a harbour of refuge, and is well adapted for such a purpose, *Denham*, 147; *Church*, 64.—It is a very narrow harbour, with room only for a fast cutter to fill and stay in, *O'Malley*, 78.—An excellent harbour and easy of access, but narrow, *Smith*, 68; *Turnour*, 68.—A safe harbour to run for, but very narrow, *Dunlop*, 59; *Pearce*, 72.—It would do for a port of call, if the water is sufficiently deep, *Washington*, 129.—A small harbour, and very narrow, scarcely room for a large steam-ship to swing over with moorings, *Carter*, 70.

2. *Lights and Headlands.*—With the lights on the Fastnet, Cape Clear, and Crookhaven, and gradual soundings before and after the Fastnet is made, the entrance is perfectly easy and safe, *Durham*, 147.—It has the advantage of another light at Ballydevlin Bay, *Marmion*, 34.—Its proximity to the Fastnet light, and the conspicuous headlands of the Mizen and Brow to the westward, and Capo Clear Island to the south-east, render its locality unmistakable, *Church*, 63.—The peninsula forming Crookhaven, and terminating in Streek Head with its outlying Alderman Rocks, stands out so well in relief from the back land, that there can be no difficulty in descrying its position from sea, *ib.* 64.

3. *Rocks and Shoals.*—The Alderman Rocks in the harbour are very narrow parallel ridges of slate, with gulleys of water between them, *Church*, 64.

4. *Anchorage Ground, depth of Water, facilities for Landing, &c.*—It is well sheltered, and has good holding ground, with moderate water, but narrow, *Kelly*, 71.—A very nice harbour for small vessels, *Pearce*, 72; *Driver*, 58.—When well inside, the anchorage is good for vessels of from 8 to 14 feet draught of water, *O'Malley*, 78.—It is a place of perfect shelter, *Denham*, 147.—It is the most complete natural basin for a steam packet that can be, *ib.* 147.—It is large enough for 3 or 4 vessels 250 feet long, *ib.* 147.—It is large enough for a packet station, if kept exclusively for packets, *ib.* 147.—It has good holding ground, is well sheltered, with moderate water, but narrow, *Kelly*, 71.—A safe harbour for small vessels, *Driver*, 58.—Large ships occasionally anchor at the entrance of the harbour, but are much exposed, *ib.* 58.—It is a good harbour but very small, scarcely wide enough for a large steamer to swing in, *Aylen*, 62; *Church*, 64, *Goss*, 69; *Carter*, 70; *Kelly*, 71.—A wharf would have to be constructed to allow the packets to lie alongside in 20 feet water, *Denham*, 147.

5. *Docks, Wharves, Piers, and Jetties.*—There are neither docks, wharves, nor any requisites for a packet station, all would have to be created, *Evans*, 133.

6. *Repairs of Machinery and Vessels, accommodation for Passengers, &c.*—It is quite in a state of nature, and possesses no facilities or accommodation for a packet station, *Evans*, 133.

7. *Price of Coal, mode of Coaling, &c.*—The coaling would probably be down alongside a hulk kept moored for the purpose, *Church*, 17.

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CROOKHAVEN—Description of, *continued*.

8. *Inland Communications.*—Bandon, 50 miles distant, the nearest railroad to Crookhaven, *Washington*, 133. — Between Cork and Crookhaven there are only 20 miles of railway constructed, *Bernard*, 202.—The night mail which leaves London for all parts of the kingdom at 8 P.M., reaches Crookhaven at 3·20 P.M. the next day but one, *Mabely*, 87.—The night mail leaves Crookhaven at 6·20 A.M., and reaches London at 5·18 A.M., the next day but one, *ib.* 88.

9. *Pilotage.*—There are four pilot bookers and several whale-boats belonging to this place, *Church*, 18. The fishermen are all pilots, but without authority, *ib.* They are tolerably skilful, and are always on the look out from Brow Head for vessels making the land between Mizen Head and Cape Clear, *ib.* 18.—The bookers often cruise at the distance of 7 or 8 leagues west-south-west of the Mizen Head, *ib.* 18.

II. ITS ADVANTAGES FOR A PACKET STATION:—
This port, from its position at the south-west angle of Ireland, and its facilities of approach, superior to any of the other western ports, *ib.* 63.—It is admirably adapted for a packet station, but so small that it cannot be used, as at present, as a harbour of refuge in addition to the packets, *Denham*, 147. — It requires very little outlay to fit it for a packet station, *Bernard*, 202.—It is perhaps the best spot for a port of call, *Paxley*, 230.—A vessel leaving this harbour and clearing the Alderman Rocks, is free of a lee shore, and at once on the ocean, *Marmion*, 34.

III. ITS DISADVANTAGES FOR A PACKET STATION:—
It is probably too small for a packet station, but ineligible only on account of the superiority of others in the immediate vicinity, *Marmion*, 34; *Church*, 64; *Ladd*, 66; *Smith*, 68.—It is too small for a packet station, *Evans*, 135; *Dunlop*, 59.—It is unfit for large ships as a station, *Plunkett*, 56.—It is unfit for a packet station, *Laen*, 58.—The harbour is too narrow for a large vessel, *Wingrove*, 60.—This port is too small for a packet station, *Aylen*, 62.—A safe little harbour, but too narrow to ride in with any length of cable out, and very shallow at the head, *Smith*, 68; *Turnuo*, 68; *Goss*, 69; *Dunlop*, 59.—The internal part is believed by the people of the place to be shoaling, *Church*, 64. — It is by no means suitable for a packet station, *Ladd*, 66; *Carter*, 70; *Kelly*, 70; *Burke*, 77.—It is too narrow and confined for a large ship, *Irwin*, 84; *Cragg*, 85.—It is not capacious nor deep enough for a large ocean steamer, *Church*, 64.—It is a long and narrow harbour, with very little depth of water, *Ladd*, 65.—Crookhaven not so easy of access at night, or in thick or hazy weather, as either Cork or Berehaven, *Brown*, 81.—A blind harbour to take at night, *Hutchinson*, 82.—It cannot be run for in a southerly gale, *Caffin*, 62.

IV. IMPROVEMENTS AND WORKS REQUIRED:—
This harbour could be improved by filling up the sound between the Alderman Rock and Streek Head, and by dredging a deep span in the internal part of the harbour, *Church*, 64. — It would be necessary to build a wharf to bring vessels alongside in 20 feet of water, *Denham*, 147. — The expense of making this port fit for a packet station would be very considerable, *ib.* 104.—The country is perfectly flat, and favourable to the construction of a railway, *Bernard*, 202.

Cunard, Samuel, Esq. (Analysis of his Evidence):—Has been much employed as a contractor for the Admiralty in carrying mails across the Atlantic, 123.—Formerly the mails were conveyed monthly by the old ten-gun brigs, which cost the country about 40,000*l.* a-year, and a number of valuable lives, 123.—Scarcely a year passed without the loss of one or more of these vessels with all on board; witness has lost many friends himself by them. Having made many passages on board these vessels, was well aware of the risk and uncertainty attending them, and came to England with a view to induce the Government to establish a line of steam-ships, *ib.*—Received support and encouragement in this project from Sir Charles Wood, Sir Francis Baring, and others, which resulted in the present contract system, *ib.*—Agreed at first to perform the service twice a month, with three vessels of 300 horse-power; ships of a larger size and power afterwards necessary, and they have been increased from time

Cunard, Samuel, Esq.—continued.
to time, as experience pointed out the necessity, 124.—Within the last few years four ships of 700 horse power, costing 360,000*l.*, have been built; and last year two more of 800 horse-power, costing 200,000*l.*, and there are now building two others of 1,000 horse-power, that will cost 220,000*l.*, 124.—The contract extended for four years on account of this large expenditure for new vessels, *ib.*—Considers that the Government would compensate him for any losses he might sustain by a change of the port of arrival or departure, *ib.*—There were no contracts for the transatlantic mail service before the introduction of steam, *ib.*—The 40,000*l.* a-year formerly paid by Government was for the whole service, *ib.*—The postage by these packets did not exceed 5,000*l.* a-year. Cunard's packets go four times as often, and the postage received is equal to the amount paid by the Government, *ib.*—The American steamers (Collins's line) now divide the postage with the Cunard packets' line, *ib.*—There are three lines of American steam-packets supported by the American Government: one between New York and Liverpool; one between New York and Bremen, calling each way at Southampton with the mails; and one from New York to Havre, calling also at Southampton, delivering and receiving mails, *ib.*—These three lines intended to keep up a weekly communication, but they have not yet done so with regularity, *ib.*—They receive from their Government 20,000*l.* a-year more than is received by Messrs. Cunard from the British Government, *ib.*—Thinks there would be no advantage gained by changing the port of arrival and departure, but many disadvantages, and that it cannot be carried out, *ib.*—The freight, a very large item, would be lost by the transfer, and would pass over to the American steam-ships, *ib.*—Produces a return of the freight on each voyage for 1849 and 1850, *ib.*—Description of goods and charge for freight, and particular of premium of insurance, &c., &c., *ib.*—Hitherto valuable goods have been chiefly taken, but when the reduced rate of freight comes into operation, more bulky articles may be expected, *ib.*—The saving of time by steam-vessels an object of great importance, especially on the more valuable goods, *ib.*—The goods shipped at Liverpool by the Royal Mail Steamers are British goods, chiefly from Manchester, Birmingham, Sheffield, Yorkshire, London, Glasgow; and foreign goods from Hull, Southampton, and Havre, 125.—Some goods come from Belfast, but not of much amount. Linens are sent from Belfast.—Particulars of the mode of transit of goods from the several places to Liverpool, *ib.*—If the Packet Station were removed to an Irish port, the American ships would take the whole freight. No man would subject his goods to be shipped and re-shipped, and sent across the country by railway. Is confident that they should get no freight; the American steamers would get it all. No one would pay the cost of transit to Ireland if a steamer were ready at Liverpool to receive the goods, *ib.*—Goods can be sent to Liverpool from Belfast with the same facility as to any Irish port for shipment. The quantity of freight from Ireland so small that it is not worth taking into account, *ib.*—Knows that Ireland furnishes a very small portion of the goods exported by the Royal Mail steam-vessels, *ib.*—The loss of freight not witness's only objection to the transfer; should lose passengers as well as freight, these would likewise all go by the American steamers, *ib.*—No person leaving London or Liverpool would cross the channel to go by railway with luggage, and perhaps wife and children, to embark at an Irish port if he could go on board at Liverpool, avoiding the sea sickness of the channel, and all the trouble and expenses of railroad, &c., *ib.*—Does not think there would be any time saved; things cannot be made to fit all together; there must always be loss of time in changing and transhipment, *ib.*—The passengers from Ireland by the mail steamers are very few; has made many passages, but has met with very few Irish gentlemen on board, *ib.*—The great proportion of passengers are Americans and persons from the Continent, *ib.*—Does not think the Government could grant compensation adequate to the loss which would be sustained by removing the station to an Irish port, *ib.*—Does not think the saving of 12 hours would induce the passengers to incur the expenses and trouble of crossing the channel and journey by railroad through Ireland, *ib.*—Is confident they would

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Cunard, Samuel. Esq.—continued.
for the most part still prefer embarking at Liverpool, *ib.*—Believes that if the packet station were removed from Liverpool to the west of Ireland, he would scarcely have any passengers or freight, and that consequently his demand for compensation must be nearly the whole amount of expenses of the packets, *ib.*—There would be no difficulty in determining the amount of compensation to be granted, provided the loss could be exactly shown, *ib.*—Neither witness nor his partner has any interest in Liverpool beyond the business connected with the management of their steam vessels, 126—The selection of Liverpool for the Packet Station originally made by witness, considering it the natural outlet to America, surrounded as it is by manufacturing districts, *ib.*—No part of the capital of the British and North American Steam Packet Company belongs to Liverpool, *ib.*—Believes there are no establishments at any of the Irish ports suitable for the repaire of large steamers, *ib.*—Repaire have been done occasionally in America, but not to a great extent. Light repairs mostly done on board by their own engineers, *ib.*—Other repairs are generally done in England and in Scotland, *ib.*—The American packets always repaired in America except such as may be required on arriving in England. The Americans have most extensive engineering establishments at Boston and New York, and at many other places, *ib.*—The neighbourhood of large engineering establishments essential to the efficiency of the transatlantic packet service, *ib.*—These establishments are of progressive growth, and could not be formed in Ireland easily, *ib.*—The establishment of a Packet Station might in time produce such works, but it would be many years before they could come to the perfection necessary for the requirements of large steam ships, *ib.*—It is a peculiar business; ordinary repairs only done at Liverpool by the Company; for heavy work the vessels are either sent to large engineering establishments in Liverpool or the Clyde, *ib.*—Heavy repairs, such as new boilers, &c, usually done on the Clyde, *ib.*—The vessels are very frequently put into the graving-dock for inspection, *ib.*—Statement of the facilities at Liverpool for repair of vessels and machinery, *ib.*—The packets, on account of the bar, cannot start at fixed hours; they have to wait for the tide, 127.—Particulars of postal arrangements and facilities for dispatch of letters up to the latest hour, *ib.*—Witness uses the electric telegraph very frequently, and believes it is much used for commercial purposes, *ib.*—The time occupied in going from Liverpool to Holyhead, thence by steam to Dublin, and thence by rail to Galway, together with the delays necessarily attendant upon the frequent transhipments of mails, passengers, and luggage, quite equal to the distance that Galway is in advance, *ib.*—Statement of the time occupied in assorting the letters at different places, *ib.*—The American steamers starting from Liverpool would take letters 24 hours later. A steamer leaving Liverpool for America at the same hour with a mail forwarded *via* Holyhead and Galway, would be more forward on her way to America than the steamer taking that mail from Galway; the delay in transit would far exceed the time saved by the difference of speed on the railroad, beside all the cost and trouble, *ib.*—Does not object to Holyhead as a place of call on the homeward passage, provided a safe pier is set apart for the sole use of the mail packets; but on the outward voyage the option of taking the northern passage would be lost, which would frequently cause a delay of more than 24 hours, *ib.*—The northern passage much more used than formerly, its advantages being better known, *ib.*—In a south-west gale on the outward voyage, they can run north along the Irish coast with an off-shore wind and smooth sea, 300 miles before they can get 100 miles from Holyhead, *ib.*—Statement of the relative proportions of northern and southern passages during the last two years, *ib.*—On some voyages the new vessels have gone at a speed of 12½ knots for the whole passage of 3,100 miles, *ib.*—Does not think it possible that a vessel could cross the Atlantic, home and out, at 15 miles an hour, *ib.*—Thinks it would be impossible for a vessel to go 15 miles an hour against a heavy sea, *ib.*—Does not think the 15 mile ships would do the work with the same regularity that the present packets have done it; they have never delayed one hour after the mail was on board, by night or by day, 128,—Steamers may certainly be worked to a very great pressure,

Cunard, Samuel, Esq.—continued.
but the cost of working, and wear and tear, must be in proportion. The Banshee has, I believe, gone 17 miles an hour, but with only a few hours' coal on board and the letters, *ib.*—Has never known one of the large steamers laid-to. Once, in a small one, the sea was so high that the ship was brought-to, *ib.*—Admits that greater speed may be obtained with shorter distances, *ib.*—If a steamer were intended for the conveyance of letters and a few passengers only, she might be constructed so as to increase her speed a knot, or perhaps a knot and a half per hour; she would only carry sufficient coal for the voyage, and would soon become light; the working expenses would be great, and the returns small, *ib.*—If constructed to carry cargo and for general purposes, does not think much, if any, additional speed could be obtained, *ib.*—The large mail packets will carry from 800 to 1,000 tons of goods, *ib.*—Whitehaven, in Nova Scotia, can never be made a Packet Station; it is closed by ice in winter, and frequently cannot be approached for two months in the spring, *ib.*—The mail packets have never been prevented from entering Halifax, even in winter, although it has been occasionally frozen, *ib.*—The risks and dangers greater on the west coast of Ireland than in the Channel, 129.—In the Channel with ordinary care there is no difficulty, and the packets go into port as often by night as by day, but no one could venture to run into a port on the west coast in a south-west gale in thick weather or at night, *ib.*—There has been no collision in the Channel with the mail packets, *ib.*—They reduce the speed in running up the Channel in thick weather, and sound, but not in fine clear weather, *ib.*—There has been no detention in the Channel after passing Cape Clear, *ib.*—Upon an average the passage in the Channel has been done more rapidly than any other part of the voyage, *ib.*—If the harbours on the west coast of Ireland were approachable at all times and seasons, they would be of no use until dry docks and wet docks are constructed of the largest size, *ib.*—These docks would cost an enormous sum in construction, and could only be maintained by a very extended commerce. Engineering establishments upon an equally large scale must be formed before the mail steamers could resort to those harbours. It would take many years to construct such works, *ib.*—It would be impossible to enter any of the harbours on the western coast of Ireland in a south-west gale at night in thick weather with vessels of the size of the transatlantic steamers, *ib.*

DALY, Rev. PETER and EDMUND O'FLAHERTY, Esq.

Daly Rev. Peter (Analysis of his Evidence):—A member of a deputation from the Harbour Commissioners of Galway, to advocate the claims of Ireland generally for a Packet Station, but more especially in favour of Galway, 105.—Believes such an establishment would give a great impulse to the trade of Ireland, beneficial at the same time to the trade of the United Kingdom, *ib.*—Delivers in a report of a convention held at Portland, in 1850, in favour of this scheme, *ib.*—Has visited the north of Ireland, and canvassed the opinions of the inhabitants and found them generally in favour of Galway, 106.—In support of this opinion, delivers in a letter from the Messrs. Kennedy, a great manufacturing house in Belfast, and as evidence of the general disposition of the north of Ireland on the subject, hands in a document from the corporation of Belfast, also a declaration from the mercantile interests of Belfast, signed by the principal leading houses. Likewise a special declaration in favour of Galway by the master and mate of a schooner, coming in the Bay of Galway in the midst of the last great storm, *ib.*—On this occasion 90 lives were lost at Kilkee, while vessels were riding in perfect safety in the Bay, *ib.*—Particulars of cost and extent of dock accommodation at Galway, *ib.*—A new pier, to join Mutton Island, proposed to be constructed at a cost of between 40,000*l.* and 50,000*l.*, irrespective of the port being made a packet station, *ib.*—The stone for this work can be got within a mile and a half, *ib.*—Further particulars respecting Galway Dock, *ib.*—The railway company prepared to build a breakwater if Galway is made a packet station, *ib.*

Mr. O'Flaherty:—A great saving of time will be effected in the passage, even with the packets as they at present run, by taking any port in Ireland, and still greater saving would be effected by using vessels of a different construction, which

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Daly, Rev. P.—continued.
could be safely employed in the shorter transit from Galway to Halifax, 106. — *Mr. Penn* of opinion that he could construct a vessel to run between these ports considerably more than 17 miles an hour, *ib.*—This increased speed would be obtained by improvements in the vessels, 107.—Such vessels would carry less coal, owing to the shorter passage, and very little bulky goods, *ib.*—A vessel leaving Galway would want only half the quantity of coal which one from Liverpool would require, *ib.*—Price of coal in Galway considerably reduced, from new mines, and from increased trade with Wales, *ib.*—16*s.* or 18*s.* 6*d.* a ton the present price of coal on board at Galway, *ib.*—Newcastle and Cardigan coal most commonly used, *ib.*—Particulars of lead and copper mines in Galway, *ib.*

Mr. O'Flaherty:—The mercantile interests of Belfast complain of the existing packet arrangements, 107.—Statement showing why they are deemed injurious to the trade of Belfast, *ib.*

Mr Daly:—Witness is desirous that the Commissioners should take *viva voce* evidence at Galway, considering that it would prove more satisfactory than the present mode, 107.—Nature of the evidence which could then be produced, *ib.*

Mr. O'Flaherty:—Such a course would enable them to answer and rebut erroneous information, 107-108.—The peculiar merits of Galway placed beyond all doubt by Captain White's report, 108. That officer states that during 18 or 20 years there was not a single fog which would impede a vessel coming into Galway, *ib.*—Captain Kendall entirely concurs in Captain White's report, he admits, however, having seen fogs, but not to any extent, *ib.*—The extension of soundings 80 or 90 miles in a direct course from the two great headlands which form the mouth of the bay a great advantage in favour of Galway, *ib.*

Denham, Captain Henry Mangles, R.N., F.R.S. (Analysis of his Evidence):—Evidence relative to the nautical points involved in the selection of an Irish port for the Packet Station, 146.—Thinks the west coast cannot be approached in a steamer with that celerity essential to the due delivery of the mails, *ib.*—The coast of Ireland from Mizen Head to Galway Bay steep-to with no bottom in 100 fathoms, at 18 or 20 miles off the outlying dangers, *ib.*—Dangers of such a coast in thick weather, and when not quite certain of the position of the ship, *ib.*—Difficulty of rounding-to to sound—delays occasioned thereby—dangers of neglecting these precautions, *ib.*—These difficulties and dangers constitute a nautical objection to running for the west coast of Ireland as a Packet Station, *ib.*—Lights of no advantage in the thick weather which occurs so frequently upon this coast, *ib.*—Thinks the commander of a mail steamer, bound to keep time, would be apt to lay aside his precaution, as a seaman, and neglect to sound, and might find himself without warning among the rocks when he believed himself 40 miles off shore, *ib.*—Soundings extend well off in the parallel of Galway Bay, *ib.*—The Shannon indicated by soundings as far off as the Arran Islands, *ib.*—While off this coast upon the survey, it was with the utmost anxiety witness ran in thick weather for any of the ports between Ventry and Crookhaven, 147.—Worked into Valentia in a sailing vessel, and watched with the greatest anxiety wind, sea, and landfall, *ib.*—The entrance very perplexing to a large vessel, but not difficult in a steamer if the landfall is well made out, *ib.*—Crookhaven is large enough for a Packet Station if kept exclusively for packets, *ib.*—It is a place of perfect shelter and could stow three or four steam vessels 250 feet long, *ib.*—It is now used as a harbour of refuge, and is not large enough for both purposes, *ib.*—Long Island Channel very intricate and bad to enter, *ib.*—Crookhaven cannot be used as a Packet Station combined with its present use as a harbour of refuge, *ib.*—Berehaven is entirely without the accommodation required for a Packet Station, *ib.*—The western entrance very intricate, and the construction of wharves would be difficult on account of the irregular margins of the interior, *ib.*—Knows of no place along the northern margin of Berehaven east of Castletown where sheltered wharves could be built, *ib.*—From 12 to 15 minutes would be lost by the mail steamers in lying-to to sound, *ib.*—Every sounding would cost a quarter of an hour, *ib.*—Prefers Cork for the Packet Station in preference

Denham, Captain, R.N.—continued.
to any of the ports on the west coast, 148.—Has surveyed Milford Haven as far abreast as the town of Milford, *ib.*—Milford the most accessible port with which witness is acquainted, *ib.*—From Cape Clear the approach is very easy, the soundings gradual, and the depths well laid down in the charts, *ib.*—There is no difficulty in making Holyhead, *ib.*—Would not recommend any port for a Packet Station between Cape Clear and the Blaskets on account of the dangerous nature of the coast, *ib.*—Specification of the lights leading into Cork Harbour, *ib.*—If Cork were made a port of call for the transatlantic packets, the delay out and in would be from one hour to one hour and a half, assuming the mails to be put into a boat always ready to take them, *ib.*—This might be done in all weathers, *ib.*—The diversion of the ship's course by calling at Cork would be equal to four hours' run, *ib.*—There would be no difficulty in reaching Holyhead from Liverpool in a given time, 149.—The passage might be made with certainty in 7½ hours, *ib.*—The difference of time between the packet landing the mail at Cork, at Passage, and sending it to Holyhead by the Dublin route, and the packet taking it to Holyhead, gives five and a half hours in favour of the land route, *ib.*—Allows five hours to go across from Dublin to Holyhead, from Cork to Dublin by the rail 160 miles, at six hours and a half, *ib.*—From off Cork to Holyhead by the sea is 18 hours' run, *ib.*

Deputation from Galway. (See *Daly and O'Flaherty*, under *Daly*).

Deputation from Cork. (See *Murphy* and others, under *Murphy*).

Deputation from Ireland. (See *Monteagle* and others, under *Monteagle*).

Deputation from American Chamber of Commerce at Liverpool. (See *Maxwell* and others, under *Maxwell.*)

Dublin and Kingstown Railway:—
Statement of the fares for passengers, and the schedule from the Act of Incorporation, showing the rates authorized to be charged for goods, *Bagen*, 238.—No heavy goods carried on this line, *ib.* 238.

Dunbeacon Harbour (Dunmanus Bay):—
A very good harbour, only 40 miles from Bandon, *Bernard*, 202.—The entrance is about one and a half cable's wide, with a depth of six fathoms, *Church*, 19. — At the anchorage there is a clear space of one cable in length north and south, and two cables east and west, with more than 20 feet water at low water springs, *ib.* 19.—The harbour is narrowed by Murphy's Rocks, awash at low water springs, *ib.* 19.—These should be marked, if they could not be turned to better account as the foundation of a pier, having deep water, 16 and 17 feet on the harbour side, *ib.* 19. — There is no wharf at which a vessel of any kind could lie, but landing with boats could always be made in the worst weather, *ib.* 19.—(*See* also Dunmanus Bay).

Dunmanus Bay:—
I. Description of:—
1. *Generally*—Dunmanus Bay is a deep water long inlet with little or no shelter in westerly winds, until past Carberry Island, *Ladd*, 66.—It is easy of access, and could be taken by a steamer at all times, *Carter*, 70.—The approach from the offing is as free from danger as any of the south-western ports of Ireland, *Church*, 18.—A steamer might run boldly midway into the entrance and up the bay, keeping rather along the northern shore, in all weathers in which land could be distinguished a couple of miles, *ib.* 19.—The entrance of the bay (between Three Castle Head and Sheep Head) is three miles wide, with a regular depth of 32 fathoms, *ib.* 19.

2. *Lights and Headlands.*—Two bold headlands form its mouth which cannot be mistaken, *Carter*, 70.—The entrance very bold and clear of shoals, *Burke*, 77.—It is well marked by the Mizen Head, and further in by Three Castle Head, and Sheep Head forming the entrance to the bay, *Church*, 19.

3. *Rocks and Shoals.*—About four cables' length westward from Three Castle Head, is a rock with 16 feet of water, and one and a-half cable westward from Sheep Head is another rock with 25 feet at low water springs, *Church*, 18.—Both of these break in very bad weather, *ib.* 19.

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DUNMANUS BAY—Description of, *continued.*

4. *Anchorage Ground, &c.*—The anchorage is insecure, *Randall*, 74 — It is exposed to every western gale from the Atlantic, and within the last three weeks (1850), a vessel has been blown ashore here, dragging her anchors, *ib.* 280. — At the anchorage in Dunbeacon harbour, is a clear space of about one cable length north and south, and two cable's length east and west, with a depth of more than 20 feet at low water springs, *Church*, 19.—In this harbour a vessel will be secure, and in smooth water in any gale from the westward, *ib.* 19.—There is depth of water for large ships up to near Man in Island, *Burke*, 77.—The anchorage at Four Mile Water is sheltered but small, being only large enough for a few moderate sized vessels, *Ladd*, 66.

5. *Docks Wharves, &c.*—There is no wharf at which a vessel of any kind could lie at Dunbeacon, but landing with boats could always be made in the worst weather, *Church*, 19.

6. *Repairs of Machinery.*—No repairs of any kind could be done in Dunbeacon, *Church*, 19.—There is no accommodation for passengers, and supplies of all kinds are scanty, *ib.* 19. — Bantry, six miles off, could furnish ample supplies of all kinds, *ib* 19.

7. *Price of Coal, &c.*—No coal is used at this place, but it might be contracted for at 16s. a ton, *Church*, 19.

8. *Inland Communication* —At present there is little intercourse with the interior, no post office nearer than Bantry, *Church*, 20.—Considers the line of country between Dunbeacon and Bandon more favourable than the country inland of Long Island Channel, Berehaven, or Valentia, *ib.* 20.

9. *Pilotage* —A few of the Crookhaven pilots have a knowledge of Dunmanus Bay, but they are not much to be trusted, *Church*, 20.

II. ITS ADVANTAGES FOR A PACKET STATION:—
A safe harbour could be made in this bay for a packet station, *Burke*, 77.—Its chief advantages consist in the facility and safety of entrance with a steamer in all weathers, *Church*, 20.—It is always easy of access, a disabled steamer could run for it at any time, which they could not do for any port along the coast, *Goss*, 69. — With disabled machinery would run for Dunmanus in preference to any port on the western coast, *ib.* 69.—It is always easy of access, and could be taken by a steamer at any time, *Carter*, 70.

III. ITS DISADVANTAGES FOR A PACKET STATION:—
The disadvantages would be chiefly on account of its difficulties for sailing-vessels which would resort here if it became a packet station, *Church*, 20.—Vessels find great difficulty in clearing out during south or south-west gales, and if unable to fetch back, would be driven up the bay without finding refuge in any other port, *Marmion*, 34.—It is not calculated for a packet station, *Aylen*, 62.—The bay is quite open and exposed to westerly winds, and could afford no shelter to vessels of the class of transatlantic steamers, *Caffin*, 62; *Ladd*, 66.—Its position so far inland is also a disadvantage in a place likely to become a naval and military station, *Church*, 20.—Its want of capacity a further disadvantage, and makes it more inferior than the other ports for the purpose designed, *ib.* 20.—It would never have been thought of as a packet station but for its proximity to the Bandon and Cork Railway, *Marmion*, 34.—It is unfit for a packet station, *Laen*, 58.—It can never be used except in extreme cases, to save life or property, *Randall*, 74.—It is a deep bay with insecure anchorage, and generally unsuitable for a packet station, *ib.* 74.—It is only safe generally for boats, *Hutchinson*, 82.—It is not even deemed an anchorage by the service, *O'Malley*, 78.—The sheltered part of the bay is too small for transatlantic steamers, *Ladd*, 66.—It has little or no shelter, and in westerly winds a heavy sea rolls in, *ib.* 66.

IV. IMPROVEMENTS AND WORKS REQUIRED:—
If adopted for a packet station, a sea-light should be placed on Three Castle Head; a light-ship moored off the sunken rocks which extend three cables' length W.N.W. from Carberry island; and a small harbour light on Manion island, on the north side of Dunbeacon harbour at the head of the bay, *Church*, 19.—With such lights a steamer might, under all circumstances, run up the Dunbeacon harbour, *ib.* 19.—A light is wanted whether for packet service or as a harbour of refuge, *Goss*, 69.

Duncan, Mr. (For Analysis of his Evidence, see *Maxwell* and *Duncan*).

ELECTRIC TELEGRAPH:—
Its use discouraged by merchants because liable to abuse by interested parties, *Bevis*, 39.—It would give priority of information to a few individuals to the disturbance of the markets, and the detriment of the general trade, *Manchester Chamber of Commerce*, 47.—The telegraph from Holyhead only twice used by merchants, *Bevis*, 39.—Priority of intelligence by electric telegraph not always obtained, *Cunard*, 127.—Believes that the electric telegraph is a good deal used for commercial purposes, *ib* 127.—Its use, however advantageous to individuals, may be injurious to society at large by the priority of intelligence afforded to a few persons, *Moore*, 213.—Priority of information in the cotton-market a fortune to any one who can obtain it for an hour, *ib.* 213.—Proposal for establishment of an electric telegraph across Nova Scotia and New Brunswick, into the United States, to communicate with their lines, negatived on account of the probability of its being used, or rather abused, by commercial speculators. *Howe*, 116.—It was considered objectionable, for many reasons, to allow the exclusive use of the means of intelligence to the American speculators, *ib.* 116.—It is questionable whether the advantages counterbalance the disadvantages, *Chapman*, 220 —It is not sufficiently to be depended upon for detailed correspondence, *Maxwell*, 220.—The importance of telegraphic communication limited, except on rare occasions, to speculators, *Chamber of Commerce, Southampton*, 225 —The gain to such persons would be at the public expense, *ib.* 225.—The electric telegraph answers well in America; but is almost a failure in England, *Howe*, 117.—The penny postage a great competitor in England, with the electric telegraph, in the transmission of ordinary intelligence, *ib.* 117.—The rise and fall of the prices of the great staples of so much importance to mercantile men that the establishment of an electric telegraph through Ireland would insure steam communication to take it across the Atlantic, *ib.* 117.—The value of the electric telegraph dependent in a great degree upon the distance intelligence is transmitted; the longer the distance, the greater its importance and value, *ib.* 117.—By using the electric telegraph, a saving of 2½ days would be obtained in transmitting intelligence to London and receiving a reply, *Bedford*, 8.—The gain in time by this means an important feature, *Church*, 13.—In a military point of view its importance is very great, *ib.* 13.—If the electric telegraph could be laid down between Kingstown and Holyhead, and the communication kept up on either side of the channel, information might be transmitted from Galway to Dublin in a few seconds, *Kemble*, 26.

EMIGRATION FROM GREAT BRITAIN AND IRELAND TO NORTH AMERICA:—

A very large portion of the emigration of the United Kingdom is from Ireland, *Perry*, 155.—Most of the emigrants go to Liverpool, and remain there a week, or more, waiting for a vessel, *ib* 155.—An immense number of emigrants from Ireland embark at Liverpool for America, *Littledale*, 205.—They usually bring their furniture with them; the poorest class invariably bring something, *ib.* 205. They come to Liverpool from various ports in Ireland, chiefly from the south and south-east coast, for about 1*l.* each, *ib.* 205; *Maxwell*, 219, *Chapman*, 219; *Walpole*, 239 —They are robbed to a great extent, and considerably imposed upon at Liverpool, *Moore*, 212.—Many emigrants embark from Irish ports; but the greater number find it more convenient to come to Liverpool, *ib.* 212; *Maxwell*, 219.—They find ships more readily, and at lower charges than vessels employed only occasionally, *Monteagle*, 215; *Maxwell*, 219.—The apparent destitution and distress of so many emigrants no proof that they are really so distressed, *Monteagle*, 215.—The emigrants, in a vessel of Lord Palmerston's, although clothed in rags when they embarked, had amongst them 1,500*l.*, and new clothes given them at Lord Palmerston's expense, *ib.* 216.—Condition of emigrants now embarking at Liverpool, superior to the class usually going to America, *Chapman*, 219.—Bad treatment of emigrants at Liverpool, *ib.* 219.—Exertions made by the American Chamber of Commerce for their protection, *ib.* 219.—The large emigration from

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EMIGRATION, &c.—*continued.*
the United Kingdom, particularly from Ireland, would afford a full supply of second and third class passengers for steam vessels, *Beausire*, 44.—The better class of emigrants would gladly avail themselves of the steamers from Cork at reduced charges rather than proceed by sailing vessels, *Shea*, 50.—From Galway, second class passengers might be taken in steamers for 10*l.* a-head, *Perry*, 154.—At this price they would be more profitable than goods, *ib.* 155.—Farmers, mechanics, and persons of that description would find it more economical to pay this sum for passage in a steam vessel than the lesser rate by the sailing vessels, *ib.* 154.—Steam vessels would sacrifice their first class passengers if they took out emigrants, *Moore*, 211.—Would not go out in a vessel with 200 or 300 passengers on board, *ib.* 211.—Believes it quite possible to combine first class passengers and emigrant passengers in the same ship, *Monteagle*, 216.—167,000 emigrants embarked in the month of January in the present year (1851), from Liverpool for America, *Littledale*, 205.—Out of 480,115 emigrants to North America in the last two years, 407,683 went to the United States, *Monteagle*, 187.—Thinks if the packets were to start from Ireland this disproportion would be reversed, *ib.* 187.—Of 1,700,000*l.* expended by private parties for emigration in 1850 (*Vide* 10th Report of Colonial Land and Emigration Commissioners), 750,000*l.* was for passage-money, and 340,000*l.* for provisions to North America alone, *ib.* 190.—The remittances from emigrants amounted to 460,000*l.* in 1847, 560,000*l.* in 1848, and 950,000*l.* in 1849, almost exclusively to Ireland, *ib.* 215.—The greater part of these sums supposed to be intended for the passage-money of emigrants to America, *ib.* 215; *Maxwell*, 219; *Chapman*, 219.—Monthly return of emigration from the ports of the United Kingdom for the years 1847, 1848, 1849, and 1850, *Chapman*, 252-255.

EMIGRANT VESSELS:—
These vessels bring cotton, turpentine, flour, and other produce of the States to this country, and take back emigrants, *Walcott*, 103.—They also export cargo, *ib* 103.—Their tonnage varies from 100 to 1,600 tons, and more, *ib.* 103.—The average passage in 1849 from London to New York was 43½ days; from Liverpool, 35 days; London to Quebec, 52¾ days, and from Liverpool to Quebec 45½ days, *ib.* 103.—The passage to New York from 15*l.* 15*s.* to 20*l.* for cabin passengers; 4*l.* or 5*l.* for intermediate passengers, and 3*l.* 10*s.* to 4*l.* 10*s.* for steerage passengers, with the legal allowance of provisions, *ib.* 103.—Statement of allowance granted to steerage passengers under the 24th clause of the Passengers' Act, of 1849, *ib.* 103.—The average charge for emigrants from the principal ports of Ireland about 3*l.* a-head, *Perry*, 154.—They must provide provisions for six or eight weeks, at a cost of about 3*l.* more, making the lowest expense about 5*l.* or 6*l.* a-head, *ib.* 154.—The charge of conveying emigrants from Limerick to North America has been as low as 50*s.* a-head, with the ordinary food, *Monteagle*, 215.—Emigrant vessels sail more constantly, and with greater punctuality, from Liverpool than from any of the Irish ports, *ib.* 215.—The certainty of almost immediate embarkation at Liverpool the cause of so many emigrants from Ireland embarking at that port, *ib.* 215.—These vessels take cabin and intermediate, as well as steerage passengers, *Walcott*, 241, 242.—The intermediate passengers about one-tenth of the number, *Friend*, 242.—These are charged about 5*l.* a-head upon the average, *Hodder*, 242.

Evans, Capt. George, R.N. (Analysis of his Evidence):—When employed on the Post Office Inquiry Commission, in 1835, was ordered by the Government to inspect the western harbours of Ireland with reference to their eligibility for Packet Stations and other purposes, 133.—The question then considered first with respect to the comparative value of the ports; and next, as to the prudence of having a Packet Station on the west coast of Ireland, *ib.*—After examining the harbours from Black Sod Bay on the north down to Cork, was of opinion that Berehaven, in Bantry Bay, possessed more advantages for a Packet Station than any of the other harbours, *ib.*—Berehaven is a very fine harbour; there is no harbour in Ireland equal to it; it has two entrances, *ib.*—Is decidedly of opinion

Evans, Captain, R.N.—continued.
that Berehaven, as respects the harbour only, is the best of the Irish ports; but in carrying out the Post Office arrangements in the present state of Ireland, a harbour better situated with reference to its inland communications, trade, and commerce, would be more desirable, *ib.*—Berehaven has no conveniences for a Packet Station at present. It is quite in a state of nature, *ib.*—There is plenty of deep water, and a natural wharf on the island, *ib.*—Further description of harbour, *ib.*—A landing pier could be built without much expense, *ib.*—Description and size of vessels trading at Berehaven, *ib.*—Evidence relative to the facilities for constructing a railway, *ib.*—The anchorage inside Whiddy Island considered the best, there being plenty of water and well sheltered, *ib.*—The anchorage proposed on account of the difficulty now thought so lightly of, of making a railway to Berehaven, *ib.*—Prefers Berehaven to any of the other ports from its position and safety of approach with proper lights up to Whiddy Island anchorage, *ib.*—Evidence relative to the existing lights at Berehaven, and what new ones would be required if the port were made a Packet Station, and where they should be placed, 134.—Precautions necessary to be taken in approaching land, *ib.*—Soundings off the Irish coast irregular and not to be relied upon like the soundings in the English Channel, *ib.*—The safety and facilities of the approaches to Galway and the Shannon nearly equal, *ib.*—The race at Tarbert no obstacle to steam-vessels, *ib.*—In running for Galway would make for the Arran Islands, *ib.*—There is no shelter in the Bay, in a south-west gale no ship could run into the harbour with safety, *ib.*—A breakwater to connect Mutton Island with the main necessary to afford the requisite shelter, *ib.*—Is acquainted with Valentia, and has examined it minutely, *ib.*—The entrance is narrow, not more than a cable's length wide, and difficult to be made out, with the sea breaking right across it, *ib.*—Would not run into this harbour with vessels of the size of the present transatlantic steamers, *ib.*—The other entrance has not more than 7 or 8 feet of water, *ib.*—Crookhaven is too small, and its entrance badly situated for a Packet Station, 135.—Carrigaholt roadstead the best point in the Shannon for a Packet Station, *ib.*—Foynes too far up the river. If the packets were to go to Foynes they could get but few passengers and small cargoes either one way or the other, *ib.*—If the mails are to be conveyed by contract steamers, at present the Irish port must be only a port of call, or else a company must be formed expressly for mail purposes from Ireland, *ib.*—The difficulty of getting contracts the only objection to making the Irish ports the sole point of arrival and departure, *ib.*—An Irish port would be advantageous for the mails and for passengers to and from Ireland, *ib.*—The transfer would cause an additional expense to the Government, *ib.*—Further evidence relative to the arrangements necessary to be made in respect of the mails, if an Irish port were made a port of call for the mails, *ib.*—In respect of passengers, thinks the Irish passengers would embark and disembark at the Irish port, but all the English and Scotch passengers at the English port, and not go through Ireland, 136.—Generally speaking, thinks first-class passengers would be inclined to prefer the shorter sea voyage, *ib.*—Advantage of having the shortest sea line and the longest inland transit for the mails, *ib.*—This of much greater importance now that railways are made, than formerly, *ib.*—Circuitous course and consequent delays of some of the letters by the existing arrangements, *ib.*—A western Packet Station important and advantageous in respect of the mails, but of far greater importance in the event of a war, *ib.*—The greater part of the trade from Ireland to America now goes through Liverpool, *ib.*—A very small proportion of the goods shipped at Liverpool are Irish goods, *ib.*—There are vessels going between Cork and America continually, emigrant vessels and others, *ib.*—The correspondence between Ireland and America at the present time very great, on account of the increase of emigration, and large sums of money are remitted backwards and forwards, *ib.*—The entire advantage of a western Packet Station would not be felt unless the port were made a sorting station for letters, *ib.*—Is decidedly in favour of Berehaven as a port of call for the transatlantic packets, *ib.*—Little expense would be required in

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Evans, Captain, R.N.—continued.
the harbour, but for Post Office arrangements some expense must be incurred for a landing-pier, and establishment for repair of steamers, &c., *ib.*—Thinks that all but Irish goods and passengers would be embarked at the English port, 137.—The advantages would be limited to the mails, provided they were sorted at the port where they were landed, and to Irish passengers and goods, *ib.*—The large steamers are coaled at Liverpool in two or three days, *ib.*—Further evidence relative to the natural advantages of the harbour of Berehaven, *ib.*—Thinks a more profitable contract could be made for taking the mails from Cork than from Berehaven on account of the commercial advantages and facilities for inland communications of the former, *ib.*

FALMOUTH:—
The mails from Brazil are landed and opened at this port, and are forwarded by the first ordinary or mail train, *Maberly*, 88.—They are very few in number, *ib.* 88.—The Brazil mails are now dispatched from Southampton, *P. O.* 103.—It was a port of call and departure only for mails, the passengers and goods being embarked and discharged at Southampton. *Evans*, 135.—The western portion of the Cornwall Railway is now in progress, and will this year be proceeded with, and carried on to Falmouth, *Brunel* 150.

FOYNES:—
I. Description of:—
1. *Generally.*—Foynes is nine miles above Tarbert, and 20 miles below Limerick, *Washington*, 193. South and south-east of the island, between it and the main land is an excellent and well-sheltered harbour of about 60 acres in extent, capable of containing many vessels, in depths varying from 3 to 8 fathoms water, *ib.* 193.—The harbour is formed by Foynes Island on the north, and mainland of county Limerick on the south, *Triphook*, 102.—It has an eastern and western entrance, and is sheltered from all winds, *ib.* 102.—The western entrance may be entered at any time of tide, *ib.* 102.—The harbour in its present state is capable of containing 8 or 10 first-class steamers *ib.* 102.—It is the natural safety harbour of the Shannon, *Hewson*, 272.—It is far better than Tarbert for a packet station, *Turnour*, 22.—A safe harbour could be made at Foynes for vessels drawing 19½ feet of water, *Burke*, 77.—An admirable little harbour, once inside the island, and so sheltered as to be equal to a floating dock 30 acres in extent, *Washington*, 131.—It has depth sufficient for the largest steamers at low water spring tides, *ib.* 131, *Gibbons*, 227.—It is completely masked on all sides by high lands, and is easy of access day or night, *ib.* 227.—Opinions on the capabilities of Foynes Harbour; Captain Medge in 1831; Colonel Burgoyne in 1832; the Shannon Commissioners in 1837; Captain Washington in his Report on Tidal Harbours, *Monteagle*, 193.

2. *Lights and Headlands.*—The approach to the Shannon is good: coming in from westward, the Blasket island and Brandon mountain make an excellent landfall, *Church*, 15, *Pasco*, 28.—The Skelligs present a safe approach, a distinguishing outline, and unmistakable and well-marked landfall, for vessels on the homeward voyage from Halifax, *Randall*, 270.—The Blaskets made simultaneously with the Skeltigs, and from these along the coast by Brandon, a weather shore and smooth water are attained, with the land always in view, until fairly within the Shannon, *ib.* 270.—The Brandon mountains are seen in clear weather at 15 leagues distance, *ib.* 270; *Carrol*, 270.

3. *Rocks and Shoals.*—The difficulty of river navigation the only difficulty in the approach to Foynes, *Griffith*, 158.—From the mouth of the Shannon to Foynes is 35 miles of river navigation, well lighted, with no danger or obstructions, *Randall*, 270.—Vessels of any draught may run up to Foynes without a pilot, *Hewson*, 272.

4. *Anchorage Ground, Depth of Water, Facilities for Landing, &c.*—The channel entering the harbour varies from 23 to 55 feet deep, *Limerick Committee*, 100.—The entrance is clear and deep, *Washington*, 193.—The harbour is sheltered and capacious enough, after the narrows are passed, *Mulvany*, 181.—At present the narrowest part is about 360 yards wide, *ib.* 198.—When dredged, the width will be 600 yards at high water, and 500 yards at low water, *ib.* 198.—The depth is sufficient for steamers

FOYNES—Description of, *continued.*
drawing 19½ feet of water at all times of the tide, *Limerick Committee*, 100; *Griffith*, 101; *Aylen*, 193.—The anchorage outside Foynes is good, but there is a heavy roll of a sea when blowing hard from westward *C. Connell*, 101.—The anchorage off the island is good, *Aylen*, 193.—Vessels can stop in the anchorage outside the island in from 10 to 12 fathoms, *Triphook*, 102.—There is a depth of 5 fathoms in the harbour within a cable's length of the pier, *Pasco*, 102.—The bottom being stiff mud, the holding ground is of the best quality, *Washington*, 193.—The harbour is sheltered from all winds, and vessels can lie at anchor in 22 feet at low water spring tides, *Griffiths*, 157.—It is so perfectly sheltered that a sloop rode here in the storm in January, 1839, in safety, while vessels at Limerick were torn from the quays, sunk, dismasted, and otherwise injured, and several deeply-laden merchantmen were driven from their anchors and driven ashore at Tarbert, *Hewson*, 272.—Passengers and mails can be landed and embarked at the new pier, when completed, at all times of tide, *Limerick Committee*, 100.—Passengers may step on board the packet from the pier in complete shelter, *Randall*, 270.

5. *Docks, Wharves, &c.*—A new pier is now being constructed, alongside which a steamer drawing 19½ feet of water can lay at all times of tide, *Limerick Committee*, 100.—This pier will be 350 feet long, and 40 feet wide at the pier head, *ib.* 199.—The pier has lately been completed, and has 456 lineal feet of wharfage, besides an incline plane of 240 feet in length, *Gibbons*, 227.—The depth alongside at high-water springs will be 36 feet, at low water springs 20 feet, *Limerick Committee*, 100.—It is intended to have 10 feet at low water, *Mulvany*, 181.—Twenty-four feet the designed depth at low water springs and 40 feet at high water, *Griffith*, 101.—The depth alongside the wharf and pier head will be 10 feet at low water, with 16 feet run of tide, and a bottom of soft mud, *Gibbons*, 227. The pier is sufficiently wide to admit of the railway carriages coming alongside a steamer at the jetty head, *ib.* 227.—The pier is under the management of the Board of Works, who will regulate the scale of charges, *Limerick Committee*, 100.—It is on the mainland, and immediately abuts upon the mail road to Limerick, *ib.* 100.

6. *Repairs of Machinery, &c.*—Everything has to be formed here requisite for a packet station, *Mulvany*, 181.—The necessary accommodation for repairs of machinery, vessels, stores, &c. would have all to be created, *ib.* 181.

7. *Price of Coal, Mode of Coaling, &c.*—Coal from the Arigna mines, sells at the pit's mouth for 4*s.* a-ton; 6*s.* more would bring it to Limerick, *Long*, 199.—It is a very bituminous coal, *ib.* 200—The anthracite coal of Limerick, Clare, and Kerry may be delivered at Foynes at 5*s.* or 6*s.* a-ton, *ib.* 312.—The Lydni coal from South Wales, the best coal for steam purposes, could be put on board for 15*s.* a-ton, and the freight would be about 7*s.* a-ton, *ib.* 201.—Has known Welsh coal frequently sold in the Shannon at this price, *ib.* 202.

8. *Inland communications.*—There is no railway at present to Limerick, but the road is very level, and there would be no difficulty in constructing one, *Griffith*, 158; *Randall*, 199; *Long*, 199.—The immediate vicinity of the limestone quarries would greatly facilitate and economise its cost of construction, *Monteagle*, 193.—Foynes is within 1000 yards of one of the finest limestone quarries in the south of Ireland, *Report of Shannon Commissioners*, 193.—7,000*l.* a mile the estimated expense of a single line of rails exclusive of the land, *Long*, 201.—Its central position and short distance from Limerick, which has railways radiating to Dublin, Waterford, and Cork, afford direct communication to all parts of the empire, and confer advantages for extended internal intercourse not possessed by any other locality on the west coast of Ireland, *Randall*, 270; *Carroll*, 270.—If Foynes were made a packet station the communication with Limerick would be more convenient and certain by the road than by the river, *Griffith*, 101.—Under such circumstances the railroad would be made to Limerick without delay, *Mulvany*, 181; *Goold*, 199.—The Great Southern and Western Railway Company are willing to make a branch to Foynes as soon as it is selected for a packet station, *ib.* 199.—The pier at Foynes is 24 English miles from the railway terminus at Limerick by the post road, *Limerick Com-*

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FOYNES—Description of, *continued.*
mittee, 100.—The distance by river from Foynes to Limerick Dock is 21 English miles, *ib.* 100.—Steamers ply daily between these places and perform the distance in two hours or two hours and a half, against tide, *ib.* 100.—With steamers of improved construction, the distance might be done in one hour and a half or less, *ib.* 100; *Sibthorpe*, 235.—The distance is 27 nautic miles from Limerick, *ib.* 235.—If passengers and mails are to be conveyed to Limerick by steamer, the vessel employed should not draw more than 4½ or 5 feet water, *O'Connell*, 101.—A vessel of about 60 horse, and not drawing more than 4 feet, would be most suitable, *Pasco*, 102.—It should be at least 100 horse power, and not draw more than 3½ feet water, *Triphook*, 102.—Small steamers of from 30 to 40 horse power, drawing not more than 3 or 4 feet of water, the only steamers which could work on the Shannon at all times of the tide, *Aylen*, 103. A steam vessel drawing 5 or 6 feet water, with engines of 150 horse power, would be capable of performing the mail service between Foynes and Limerick, *Sibthorpe*, 235.—This passage cannot be made at night or in foggy weather, *ib.* 235.

9. *Pilotage.*—Pilot vessels are always found cruizing off Loop Head while the weather permits, and in bad weather they will be found at anchor in Carrigaholt Roads, *Aylen*, 103.—Knows of no pilot boats in the Shannon fit to keep at sea in a gale of wind, but small boats, called "Curraghs," board vessels in very severe weather between Loop Head and Kilcradan Light, *O'Connell*, 101.—A pilot could always be procured in a gale before the vessel got into the intricate parts of the river, *Pasco*, 101.

II. ITS ADVANTAGES FOR A PACKET STATION:—
It is superior to any other port in the Shannon, *Randall*, 197.—It is the best port in the Shannon for a packet station, *Long*, 199.—Prefers Foynes to Tarbert; it could be made fit for a packet station at much less expense, *ib.* 201.—It affords the most direct accommodation for the landing of passengers, and for the safety of the steam packets, *Randall*, 198, 270; *Carrol*, 270.—With a very small outlay, the facilities of Foynes will equal those of Southampton, *Randall*, 198.—It is the natural safety harbour of the Shannon, *Hewson*, 272.—It possesses all the advantages of an open unobstructed approach at the foot of the first landfall on the Irish coast sighted from westward; a safe, open, well-defined seaward entrance, which may be boldly run for in all weathers, day or night. A capacious, well-sheltered estuary, having several anchorages, and well lighted throughout the entire length; an improving port and central position, affording unequalled facilities by railways and water communication, *Randall*, 271, *Carrol*, 271.—The pier and roadstead afford safety to vessels in severe weather not to be found in any cove on the western coast of Ireland except Berehaven, *Hewson*, 272.—Statement of the advantages of Foynes in reference to the internal communications, *Randall*, 270; *Carrol*, 270. The lines from Limerick to Dublin, and Limerick to Waterford, present two direct communications to Great Britain, the former the most direct route for the northern and central districts of Ireland, the north of England and Scotland, and north of Europe; and the other the most direct route for London, the south of England, Paris, and the west of Europe, *Randall*, 270; *Carroll*, 270.

III. ITS DISADVANTAGES FOR A PACKET STATION:—
It is too far up the river for a packet station, *Evans*, 125; *Mulvany*, 181.—It is too small, it is too narrow for a permanent harbour, *Griffith*, 156.—Considers that a very large vessel would be found difficult to manage at Foynes on account of its narrow channel and the velocity of the current, *Mulvany*, 181.

IV. IMPROVEMENTS AND WORKS REQUIRED:—
This harbour might be made one of the most beautiful docks or basins in the world, and would then contain as many, if not more, vessels than the Southampton Docks, *Triphook*, 102.—The western entrance requires to be deepened, *Washington*, 131.—To fit it for a packet station a small expense for shedding a hulk and harbour light would be necessary, *Randall*, 197.—The Ballast Board would put up a lighthouse at once if lights were considered necessary, *ib.* 197.—A landing place and dock could be constructed inside the island with deep water, and not affected by winds; the entrance easy though narrow, *Turnour*, 22.—A timber jetty in extension of the pier to a depth of 19 feet at low water spring tides could

FOYNES—Improvements, &c., *continued.*
be constructed for 1,000*l.*, *Griffith*, 157.—Such a jetty might be constructed for a few thousand pounds, *Mulvany*, 182.—Would project the jetty from 50 to 60 feet beyond the pier, along the fideway, and then put on a T head, *ib.* 182.—This would extend beyond a depth of 19½ feet of water, and not materially narrow the channel, *ib.* 182.—A depth of 22 feet at low water expected to be maintained at the head of the proposed jetty, *Randall*, 198.—A small pile-framed jetty, in extension of the pier, would enable vessels drawing 24 feet of water to come alongside at the lowest tide, for less than 1000*l.*, *Gibbons*, 227.

GALWAY:—
I. DESCRIPTION OF:—
1. *Generally.*—The bay is 20 miles wide, with the Arran Isles in the centre, forming a natural breakwater arresting the force of the Atlantic swell, and leaving on either side navigable channels, 3½ and 4 feet wide, *Bedford*, 8.—A noble bay, and well sheltered by the Isles of Arran, *O'Malley*, 78; *Daly*, 265.—Further and detailed description of the bay and harbour, *ib.* 265.—The harbour is accessible only at high water, *Lowe*, 57.—Description of Gregory and Foul Sounds, *Bedford*, 93.—The best harbour on the west coast of Ireland for steam and sail navigation, *Mulvany*, 286.—The facilities for entering the harbour both day and night are very considerable, *Bedford*, 8; *Washington*, 131.—The entrance of the bay is on a parallel of latitude very desirable to run for, *ib.* 131; *Bedford*, 92; *Daly*, 108; *Evans*, 278; *W. Evans*, 279.—Would run for Galway Bay if prudent to run for any part, and with far greater confidence than for Liverpool, *Bedford*, 56.—The lume trade is usually carried in schooners of about 130 tons, drawing when loaded about 13½ feet of water, *ib.* 91.—In 1849, 21 vessels of 4251 tons belonged to the port of Galway, *ib.* 91.—Vessels of from 200 to 500 tons further are employed in conveying emigrants to America, and return with cargoes of grain or timber, *ib.* 91.—Further statement relative to the trade and commerce of Galway, *Mulvany*, 288.

2. *Lights and Headlands.*—The approach from the ocean is well defined and unmistakable, *Bedford*, 8.—Every part can be safely approached to half-a mile, *ib.* 8.—Vessels homeward bound would steer direct for the Arran Isles, where there is now a high central light, *ib* 9. The bay is easily entered, and easily distinguished by day or night, *Plunkett*, 56.—The Arran Isles, 500 feet high, the finest landmark in the world to run for, *Washington*, 131.—It would be as easy to make the Skellig Lights or the Loop Head Light as Cape Clear, the Lizard, or any other light; and the coast is bold from the Blaskets to the Arran Isles and up the bay to the anchorage, *Turnour*, 22.—Loop Head on the south, and Slyne Head on the north, distant 100 miles from each other, form the extreme points of Galway Bay, the Arran Isles being in the centre, *Randall*, 74.—*Mulvany*, 287.—If driven by currents to the northward, the Slyne Head lights would be met with; and if to the southward, those on Loop Head, *Kemble*, 26.—The high land on North Arran (on which the light is now placed) is 490 feet above the level of the sea, *ib.* 26.—The light can be seen many miles distant by a vessel homeward bound, *ib.* 26.—It can be seen more than 30 miles off, *O'Malley*, 78.—The 12 pins of "Connemara" can be seen 40 miles from sea, and Black Head, a bold bluff headland, form good landmarks, *ib.* 78.—Galway has such admirable facilities for getting in, that soundings are not necessary unless in very thick weather, *Robinson*, 176.—Would run for Galway with as much confidence as the Start or the Lizard, or any other headland, *ib.* 177.

3. *Rocks and Shoals.*—The Marquinta Rocks at the head of the bay, approaching the anchorage, are marked with a perch, and a rock on the port hand has also a perch on it, *Turnour*, 23.—The Margaretta shoal has an average of 11 feet of water at low water springs, and the Black Rock dries at low water; both are within three miles of Mutton Island, *Kemble*, 26; *Mulvany*, 287.—There is a bar before the mouth of the Corrib River, with a depth of only 5 feet at low water springs, *Bedford*, 9.—The Black Rock, on the north side, and the Margaretta, on the south, about two miles below Mutton Island, the only dangers to be apprehended in approaching the anchorage, *ib.* 93; *Mulvany*, 287.

4. *Anchorage Ground, Depth of Water, Facilities for Landing, &c.*—The anchorage is 22 miles from

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GALWAY—Description of, *continued.*
the Arran Isles, *Turnour*, 96.—The anchorage affords no shelter to a vessel drawing 18 or 19 feet of water against a heavy sea setting in, *ib.* 96.—A safe anchorage, but very much exposed, *Lowe*, 57. Large steamers must ride in the bay exposed to westerly winds, *Randall*, 75.—With the wind between W. and W.S.W., this anchorage always rough, *ib.* 75.—With such winds blowing hard, no communication could be had with the town of Galway two miles to leeward, *ib.* 75.—During westerly gales it would be difficult to communicate with the shore on account of the heavy sea which sets in, *Bedford*, 9.—Has often been prevented from communicating with the shore for 24 hours by the wind and sea, *Turnour*, 23.—Has been three weeks at a time in Galway Roads without landing, on account of the uncertainty of getting on board dry, *ib.* 96.—During the time the "Shearwater" was lying in the roads was several times compelled to let go second anchor, and ride with two anchors a head, and twice to get up steam to assist the anchors, *ib*, 96.—A continual swell sets into this dangerous bay, *Aylen*, 41.—A heavy sea always sets into the bay with a westerly wind, and the anchorage is bad, *Hall*, 13.—The anchorage is at the bottom of a deep bay, and much exposed in easterly winds, *Wingrove*, 60. At present there is no harbour at Galway, only a roadstead, *Washington*, 131.—It is not fit for a vessel to lie in and embark goods and passengers, *ib.* 131. It is without shelter, *Evans*, 134.—The entrance is very much exposed to the prevalent south-west winds, *Griffith*, 157.—It has a rough and open roadstead two miles from the landing place, *Randall*, 270; *Carrol*, 270.—The roadstead is capacious and deep, having from 2 to 4 fathoms at low water springs, and sheltered from the prevailing winds by Mutton Island, *Mulvany*, 287.—The anchorage under Mutton Island sufficiently deep, and the holding ground excellent, *Bedford*, 9.—It is safe for all vessels properly found and managed under the most unfavourable state of the weather, *Kemble*, 27; *O'Malley*, 78.—Considers that Galway at present, from its great exposure, is without a harbour, *Long*, 200.—Passengers and mails would be landed or embarked by means of suitable small craft, *Bedford*, 9.—Except in very rough weather, this could always be done in safety, *ib.* 9.—The mails could not at all times be landed without risk, *Rask*, 21; *Hungerford*, 26.—The gales which would prevent passengers landing or embarking do not occur more than two or three times a year, *Bedford*, 93.—Would employ a steamer of 20 or 30 horse power, and about 50 tons, drawing 3½ or 4 feet of water to land passengers and mails, *ib.* 93.—Communication with the shore could thus be maintained except during very strong gales, *ib.* 93.—This might happen two or three times a year, *ib.* 93.—Passengers could not be landed or embarked with a heavy sea setting in, *Turnour*, 96.—Would not recommend an auxiliary steamer of less than 60 horse power, *ib.* 96.—A small steamer drawing 3½ or 4 feet of water could at all times of tide convey mails and passengers to within 100 yards of the dock steps, or one-third of a mile from the railway terminus, *Bedford*, 93.—The landing place for boats is two-thirds of a mile from the roadstead, *Turnour*, 96.—Boats cannot reach this landing place at low water by 60 yards, the ground, composed of mud and large stones, being slippery and dirty, *ib.* 96.—This might be remedied by a slip run out and kept clear of mud as the tide ebbed, *ib.* 96.—At high water the landing is alongside the wharf with steps, *ib.* 96.—From the roadstead to the docks is about three-quarters of a mile, *Bedford*, 93.—At present passengers could be landed in the town, and, when the causeway is perfected, on Mutton Island, *Robinson*, 176.—There is no shelter at present for passengers on landing or waiting at the landing place to embark, *Turnour*, 96.—Passengers can be landed without difficulty except in a storm of unusual violence, *ib.* 176.—The nearest inn is about half-a-mile from the landing place, *ib.* 96.—Passengers could not be landed in a gale, *Robinson*, 178.—There is no difficulty at present in landing passengers at high water, *ib.* 178.

5. *Docks, Wharves, &c.*—Galway dock has a clear entrance of 54 feet, an area of more than 5 acres, and a depth of from 14 feet to 17 feet at high water spring tides, *Bedford*, 9, 91; *Washington*, 131.—Further and more detailed particulars relative to this dock, *Griffith*, 234.—It is not capable of receiving vessels of the class of the transatlantic packets drawing 19½ feet of water, *ib.* 9; *Randall*, 75; *Washington*, 131.—Neither dock nor pier are assessible except at high water, *Rask*, 21.—There are no wharves at present calculated conveniently for embarking goods and mails, but these could easily be constructed, *Kemble*, 26; *Bedford*, 93.—A dock of sufficient size and depth for American steamers would be constructed if Galway were adopted as the packet station, *Perry*, 157.—The money for this purpose could be raised upon the security of the existing docks and town property of Galway, *ib.* 157.—Docks difficult and expensive to construct at Galway on account of the rock, *Griffith*, 157.—The entrance of Galway Dock could be increased to a width of 80 feet, to admit of transatlantic steamers without materially increasing the expense, *Mulvany*, 184.

6. *Repairs of Machinery, &c.*—There would be no difficulty whatever in making the necessary repairs to vessels and machinery in Galway, *Mulvany*, 182.—There are two foundries where repairs of a minor character could be made, *Bedford*, 9.—A steam engine foundry not available without appropriate docks or wharves, *ib.* 9.—There are no conveniences in Galway at present for the repairs and maintenance of packets' machinery, boilers, &c., *Kemble*, 27.

7. *Price of Coal, &c.*—Ordinary retail price of coal 18*s.* or 20*s.* a ton, delivered on board; but this, with a steady demand, would probably be reduced to 14*s.*, delivered in the roadstead, *Bedford*, 9.—Ordinary price of coal about 14*s.*, a ton, which would probably be reduced by competition to 10*s.* or 11*s.*, *Kemble*, 27.—The price has hitherto been influenced by the difficulty of getting a back freight on account of the famine, *ib.* 27.—24*s.* a ton paid for coals delivered on board the "Shearwater" in Galway Roads, *Turnour*, 96.—The best coals are put on board at Galway for 16*s.* or 16*s.* 6*d* a ton, *O'Flaherty*, 107.—The price of coal has lately fallen one-third, with the increased trade, *ib.* 107.—It might be reduced still more if the trade were further increased, *ib.* 107.—The contract for the workhouse has been taken at 14*s.* or 15*s.*, *ib.* 183.—Newcastle and Carrigan coals most generally used, *ib.* 107.—The packets could be coaled by means of small craft; the distance to the anchorage about three-quarters of a mile, *Bedford*, 9; *Kemble*, 27.—Coaling might be prevented by a heavy sea setting in, *Turnour*, 96.

8. *Inland Communications.*—If the railway were completed to Galway the mails from London by the ordinary trains might be put on board in thirty hours, *Hill*, 140.—If forwarded by express from Dublin to Galway, in twenty-two hours, *ib.* 140.—Express train would accelerate the English and Scotch correspondence, but not the Irish, which would still have to be sent to Dublin for Galway or England, *Hill*, 144.—If Galway were made a packet station, communications would be established by railway and steamer with all the leading ports and towns in the empire, *Perry*, 153.—Steam communication with Glasgow would then speedily be effected, *ib.* 153.—By means of the midland and northern railways of Ireland continuous railway communication could be had between Belfast and Galway, *ib.* 153.—Statement of the various lines of railway connected, or hereafter to be connected, with Galway, showing the advantages of its position for a packet station *Mulvany*, 286.—The railway now in progress will unite this port and Dublin, and is better suited than any other line for passenger traffic or conveyance of transatlantic mails, *Bedford*, 9.—The line of railway from Dublin to Galway will be opened in July or August, 1851, and will connect Galway with all the principal towns west of Dublin, *Kemble*, 27.—The journey from Dublin to Galway by railway will occupy five hours, *Kemble*, 27.—By means of Loughs Corrib and Mask, which are now being united to each other and to the sea, Galway has a considerable water communication towards the north, *Bedford*, 10.—The night mail leaves London at 8 P.M., and arrives at Galway at 7·50 A.M., the next day but one, *Maberly*, 87.—It leaves Galway at 4·40 P.M., and reaches London at 5·18 A.M. on the next morning but one, *ib.* 88

9. *Pilotage.*—Pilots only employed in taking vessels from the roads into the docks, *Bedford*, 91.—This a compulsory regulation, *ib.* 91.—Pilots are not necessary for the bay on account of the facilities for approaching the port, *ib.* 91.

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GALWAY—*continued.*

II. ITS ADVANTAGES FOR A PACKET STATION:—
Except in very rough weather mails and passengers could be landed or embarked at all times, by means of suitable small craft, *Bedford*, 9.—It is a port which can be made at any season, night or day, neither tides nor weather causing any hindrance, *Turnour*, 92.—The best harbour on the west coast of Ireland for steam and sail navigation, *Mulvany*, 286.—Every part can be safely approached to within half a mile, *Bedford* 8.—Considers it even now fit for a packet station, but that it would be made more fit by the construction of works within Mutton Island, *Robinson*, 176.—It is better fitted for a packet station than any other port in Ireland, *Mulvany*, 179.—In its present state, has seen vessels use the roadstead as a harbour, in which they ride out the gales of the coast, and then get to the quays or dock to discharge their cargoes, *Mulvany*, 206; *O'Flaherty*, 206.—Admits that on one occasion a man-of-war steamer has been compelled to let go a second anchor, and keep her paddles moving to keep the strain off her cables, *ib.* 200.—The anchorage under Mutton Island sufficiently deep and safe for all vessels properly found and managed, in the most unfavourable weather, *Bedford*, 9.—By adopting Galway, a saving of 19 hours might be effected between London and Halifax, *ib.* 10.—This an important consideration in a voyage not averaging more than 11 days, *ib.* 10.—The saving would be at least 12 hours, *Perry*, 156. With the electric telegraph, intelligence might be conveyed to London and an answer returned 33 hours sooner than by Liverpool, *Bedford*, 10.—When the railways are completed, intelligence by electric telegraph can be conveyed from New York to London in five days one hour and a half, *Daly*, 266.—Although 32 miles further from Halifax than Valentia, the lesser distance of Galway from Dublin is more in its favour, *Bedford*, 10.—Galway decidedly the most eligible port for the packet station, *Beausire*, 44.—It is the best port in Ireland for such a purpose, *Bedford*, 91.—It is far superior to Liverpool *ib.* 91.—Should consider a man unfit to navigate his ship who, although a stranger, could not bring his vessel to an anchorage in Galway Roads without other guides than a correct chart and sailing directions, *ib.* 91.—Does not think there is any other port possessing the same advantages as Galway, *Perry*, 156; *Daly*, 266.—The facilities for entering the bay both day and night are very considerable, *Bedford*, 8.—Passenger traffic and delivery of mails in London would be accelerated 20 or 24 hours, *ib.* 8.—By means of the electric telegraph, intelligence might be communicated in London 33 hours sooner, and if a reply were needed, a saving of more than two days and a half would be effected, *ib.* 8 and 10.—From New York, *via* Boston, Halifax, and Galway, to Liverpool, with a proper steamer, and by railway, the voyage and journey could be made in 7 days 10½ hours, and to London in 7 days 14½ hours, *Galway Committee*, 45.—By railway and improved steam communication, New York can be brought within 7 days and Halifax within 5 days of Galway Bay, *Daly*, 265.—It is expected that intelligence, which is now transmitted in 10 or 12 days from America, would reach London in 7 days by the new route, *Daly*, 111.—It is distant from Halifax only 2,184 nautical miles by the shortest route, a strong point in its favour, *Washington*, 131.—It is almost in a straight line westward to New York, *Perry*, 156.—National advantage of a more direct communication between England and Ireland, *Bedford*, 8.—Opinions in favour of a packet station at Galway. Mayor and Town Council of Belfast, that it would be highly beneficial to the trade of Belfast, 275.—Twenty-six merchants of Belfast consider that it would be not only beneficial to Belfast, but to the trade and commerce of the whole of the United Kingom, 275.—Declaration of John and Thomas George, master and mate of the schooner "Joshua Carrol," that there is no bay or harbour in Ireland where a stranger can run his vessel to with such safety as Galway, 275.—Declaration of Lawrence Moore, ship-master of Galway, in respect of the facilities of the bay, 275.—Would have no hesitation in running for the Isles of Arran, and pass through any of the sounds if the lights on Brannick's or Gregory's Sounds were erected, *M'Donogh*, 277.—There is no wind that blows can prevent any ship entering Galway Bay, *Evans*, 278.—Opinions in favour of the facilities of the harbour and safety of the bay

GALWAY—Its Advantages, &c., *continued.*
and roadstead, *M'Donogh*, 277-8; *Evans*, 278; *O'Mally*, 278; *Evans*, 279.—Advantages of Galway described in reference to its central position and connexion with the various line of railway constructed, or proposed to be constructed, in Ireland, *Mulvany*, 286.—Statement of the capabilities of the bay and harbour, *ib.* 286.—Its capabilities in respect of commerce, *ib.* 288.—Soundings can be made outside the Islands of Arran for 60 miles, *Evans*, 278; *W. Evans*, 279.

III. ITS DISADVANTAGES FOR A PACKET STATION:—
Galway Dock not capable of receiving vessels of the class of transatlantic packets, drawing 19½ feet of water, *Bedford*, 9.—Foundries for extensive repairs not available without appropriate docks or wharves, *ib.*—Small craft necessary to coal the packets, *ib.* 9.—Admits that docks of the size to admit American packets are absolutely necessary, *Perry*, 156.—A temporary stoppage of the mails by a sudden rebellion in Ireland the disadvantage nationally considered, *Bedford*, 8.—A continual swell sets into this dangerous bay, *Aylen*, 41.—It is unfit for a packet station, *Laen*, 58.—It offers no secure harbour for a packet, nor safe landing-place for passengers, *Randall*, 270; *Carroll*, 270.—It has a rough and open roadstead two miles from a landing-place, *ib.* 270.—An open roadstead, unsafe in winter months, and not adapted, under any circumstances, for a western packet station, *Driver*, 58.—Galway totally unfit in its present state for the objects intended, *Hall*, 13.—A heavy sea always sets into the bay with a westerly gale, and the anchorage is bad, *ib*, 13; *Randall*, 75.—The mails could not be landed in all weathers without risk, *Risk*, 21; *Hungerford*, 26.—A difficult and dangerous port to run for, owing to the low coast and prevalence of thick weather, *Hungerford*, 26.—In a gale from the S. to W.S.W., there is not safe anchorage in the bay, *Aylen*, 41.—It is at the bottom of a deep bay, and much exposed with westerly winds, *Wingrove*, 60.—The great drawback on the advantages of this bay are its approaches, *Marmion*, 34.—A vessel homeward-bound from Halifax would first make the Skelligs, and then have to beat up along an iron-bound coast, subject to fog and haze, and dangerous in the winter season from want of safety harbours, *ib.* 34.—The coast from Loop Head on the south to Galway Bay, a distance of 40 miles, is extremely dangerous, and without any place of refuge; from Slyne Head to the north of Galway Bay the coast is so beset with rocks and islands that it must be always dangerous for large vessels and persons not thoroughly acquainted with the locality, *Randall*, 74.—It is an open roadstead, unsafe in the winter months, and not adapted, under any circumstances, for a packet station, *Driver*, 58.—A heavy sea sets into the bay with the wind blowing dead on shore for eight or nine months in the year, and subject to heavy gales and foggy weather, *Aylen*, 62.—No master could, under such circumstances, run into the bay without great risk of losing his vessel, *ib.* 62.—With imperfect reckoning, the prevailing swell, frequent fogs, and the short days of winter, it would be dangerous for a steam vessel to run for Galway, especially as Slyne Head can never be approached in thick weather, *Carter*, 241.

IV. IMPROVEMENTS AND WORKS REQUIRED:—
A breakwater, extending one-third of a mile or more from the south-east point of Mutton Island, would convert the roadstead into a good harbour, *Bedford*, 9, 11; *Washington*, 131.—By uniting Mutton Island with the main land, and projecting a pier 200 yards from the south-east point of the island, vessels drawing 19½ feet of water might easily embark or land passengers and mails alongside, *Bedford*, 9; *Turnour*, 23; *Kemble*, 26; *Burke*, 77; *Evans*, 134; *Mulvany*, 179.—This would include an area with sufficient depth for any vessel, and entirely shelter the most exposed part, *Bedford*, 11.—To prevent the roadstead filling up, the breakwater should be connected with Mutton Island by a bridge or platform on piles to allow the stream and wash of the sea through, *Washington*, 131.—A larger harbour than Kingstown could be made, and at much less expense, *Bedford*, 9.—The island should be connected with the mainland by a causeway to Fair Hill 10 feet high and 2,400 feet long, *Washington*, 131; *Mulvany*, 287.—The Railway Company will build a breakwater if Galway be made a packet station, *O'Flaherty*, 106.—To make

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GALWAY—Improvements, &c., *continued.*
it fit for such a purpose for steam vessels drawing 20 feet water, it would be necessary to connect Mutton Island with the main land, and project a pier of considerable length to keep off the force of the Atlantic wave, *Griffith*, 157.—The expense would be in proportion to the depth of water required at low water, *ib.* 157.—The expense would be more considerable than at other places on account of the difficulty of excavating the rock, *ib.* 157.—Between 40,000*l.* and 50,000*l.* proposed to be laid out to construct a pier from Mutton Island without reference to the port being made a packet station, *Daly*, 106.—The proposed work would not cost less than 150,000*l.*, and if built for this sum it would do great credit to the engineer, *Washington*, 131.—The works required are a mole from the shore to Mutton Island, and a pier projecting into about 5 fathoms water, to mask the harbour and make it safe with a landing jetty inside the pier, *Mulvany*, 179.—These works could be connected with the railway without much difficulty, *ib.* 180.—The Railway Company would make the extension if Galway were made a packet station, *ib.* 180.—The cost of the pier, breakwater, and jetty estimated by Mr Roberts at 110,500*l.*, *ib.* 180.—Mr. Forsyth's estimate of the same works amounts to 134,509*l.*, *ib.* 180.—The works included in the last estimate more extensive than the first, the pier being proposed to extend to deeper water, *ib.* 180.—Both these estimates excessive, and include works not necessary for the accommodation of the mail packets, *ib.* 180; *ib.* 287; *ib.* 292.—The staging works necessary for the construction of permanent works would themselves serve for several years for the purpose of a communication with Mutton Island roadstead, *ib.* 192.—These works with a wooden jetty into deep water to land passengers could be constructed for 10,000*l.* or 15,000*l.*, *ib.* 192.—Thinks an expenditure of hundreds of thousands of pounds wanted to make a sufficient harbour in Galway Bay, and that even after a very large outlay the extent of anchorage would be very limited, and probably insufficient, *Long*, 200.—Mutton Island the most advantageous position for docks and basins, which would require but little excavation for their construction, and be accessible at almost any time of the tide, *Bedford*, 11.—On Mutton Island, and the artificial ground formed within it, might be erected steam factories, warehouses, &c., to any extent, *ib.* 11.—The Railway Company willing to co-operate for the improvement of the harbour, *Blake*, 178.

Lights.—By removing the light in the centre of Arran Isle, and placing one at each extremity of the island, with a light also on Straw Island, and on Black Rock, every facility will be afforded for reaching Galway Harbour, *Bedford*, 93; *Washington*, 131; *Bedford*, 9; *Kemble*, 26.

Docks.—If Galway were made a packet station, a dock capable of receiving the transatlantic packets would be indispensable, *Bedford*, 93.—The present docks would be improved so as to make them fit to receive large steamers, *O'Flaherty*, 178.

GOODS TRAFFIC.

England and America:—
Most of the goods for the American markets go to Liverpool from Birmingham, Manchester, Sheffield, London and Glasgow, *Caffin*, 12.—Six steamers are constantly employed by Belfast and Glasgow in carrying the manufactures of these ports to Liverpool for shipment to the United States, *Mawmon*, 37.

Belfast and Liverpool:—
Linens are shipped from Belfast for Liverpool for exportation to America, but not in large quantities, *Cunard*, 125.—The quantity of goods shipped from Ireland to Liverpool for exportation to America very small, and not worth taking into account in the question of freight, *ib.* 125.—Mr. Kennedy manufactures and exports considerable quantities of goods to America, *Perry*, 153.—He sends his goods from Belfast to Liverpool, and thence to New York, *ib.* 153.—A small quantity only sent by the mail packets on account of their high charges, the bulk being sent by sailing packet and sailing vessel, *ib.* 153.—Goods can be sent to Liverpool from Belfast with the same facility that they can be sent to any Irish port for shipment, *Cunard*, 125.—1*l.* a-ton a fair average of the charge for freight; upon some descriptions of goods it is not more than 10*l.* a ton, *Perry* 153.

GOODS TRAFFIC—*continued.*
Liverpool and Galway:—
The City of Dublin Steam Packet Company would contract to take goods from Liverpool and put them on board at Galway, all charges included, at less than 30*s* a ton, *Perry*, 155.

GREAT CIRCLE SAILING:—
Now acknowledged in the present improved state of navigation to be the shortest route between port and port, *Belcher*, 31.—Illustration of great circle sailing between New York and Liverpool to the north of Ireland, *ib.* 33.

Griffith, Richard, Esq. (Analysis of his Evidence):—
Is chairman of the Board of Public Works in Ireland, and well acquainted with the western coast of Ireland, 157.—Has considered the question of the western Packet Station, *ib.*—Works necessary to make Galway fit for the reception of transatlantic mail steamers, *ib.*—Advantages of the locality for carrying on these works, *ib.*—The proposed pier from Mutton Island would be very expensive, *ib.*—Description and position of pier proposed by witness, *ib.*—Difficulty of excavating docks at Galway, on account of the rocky bottom, *ib.*—Their expense would be greatly increased on this account, *ib.*—Capabilities as regards depth of water, width of entrance of the existing dock described, *ib.*—Description of Foynes Harbour, and of the works there, *ib.*—The approach to Foynes as favourable as any of the western ports, 158.—17 feet rise of tide in the Shannon, *ib.*—Foynes at present without a railway, *ib.*—Facilities for constructing one, *ib.*—Foynes more accessible than any of the other ports on the Shannon, *ib.*—More extensive works required at Tarbert than at Foynes, on account of its exposed situation, *ib.*—Description of works required at Tarbert, *ib.*—The expense would be considerable, *ib.*—The shelter at Foynes is perfect; it is not exposed to any wind. The current is heavy, but it is capital anchoring-ground, *ib.*—The objections to Foynes are its narrow channel and limited capacity, *ib.*—As a permanent harbour it is too narrow for the packet service, *ib.*—Cause of the rapidity of the tide at Foynes, *ib.*—The difficulties of the Shannon commence above Foynes, *ib.*—Further description of the works at Foynes, *ib.*—Description and cost of the docks at Limerick, *ib.*—At present they are insufficient to receive large steamers, 159.—Scheme for enlarging them to make them fit for the American mail steamers, *ib.*—Present state of the river up to Limerick, and improvements necessary to enable these large vessels to get up there, *ib.*

Hagan, Sir R. (for Analysis of his Evidence, *see* under *Murphy*).

HALIFAX, NOVA SCOTIA:—
The British mail packets have never been prevented from getting into this harbour in winter, although it is occasionally frozen, *Cunard*, 128.—The packets are frequently detained 20 or 24 hours off Halifax, on account of fogs, *ib.* 129.—Halifax generally considered, both in the United States and in the British provinces, as the best point on the American coast for the packet station, *Archibald*, 167.—Although some miles further from Europe than Whitehaven, yet it is preferable to that harbour for a packet station, *ib.* 273.—Believes that when a railroad shall be completed, connecting Halifax with the great lines in the United States, that the American packets will start from thence as well as the English packets, *ib.* 167.—About 50 or 52 hours would be saved between the west of Ireland and New York, by landing at Halifax, and then taking the railway, *ib.* 168.—Of the 850 miles of railway between New York and Halifax, 420 are already open, and the surveys are completed for the remainder, *Daly*, 265.—Her Majesty's Government having agreed to guarantee the Great Halifax and Quebec Railway, its future erection may be considered as settled, *Monteagle*, 187.

Hill, Rowland, Esq. (See *Maberly* and *Hill*).

HOLYHEAD:—
This port intended at the expiration of the present contract, and as soon as the pier is completed, to be the port of departure instead of Liverpool, *ib.* 114. Sees no objection to making Holyhead a port of call on the homeward passage, provided a proper pier is set apart for the use of the packets, *Cunard*, 127.—If made a port of call out and home, they would not be able to use the northern passage, *ib.*

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HOLYHEAD—*continued.*
127.—The northern passage of great importance; the use of which, frequently prevents considerable delay, *ib.* 127.—In a south-west gale (the prevailing wind), by taking this route they can run with an off-shore wind and smooth sea 300 miles quicker than they could 100 miles the other way, *ib.* 127.—The northern, the shortest passage, *ib.* 127.—Statement showing the relative proportions of northern and southern passages in 1849 and 1850, *ib.* 127.—Description of the changes which would be made in the Post-office arrangements by making Holyhead a port of call for the American mails, in respect of the arrival and departure of letters, *Post-office*, 94.—Establishment which would be required if the bags were made up at Holyhead on the outward voyage, and opened, stamped and distributed on the homeward voyage, *ib.* 94.—The expense for salaries, &c. would be 2,222*l.* a-year, *ib.* 94.—If the mails were merely landed or embarked at Holyhead, and made up in London and Liverpool as at present, one or two extra clerks, and three or four porters would suffice, *ib.* 94.—If the packet arrived at Holyhead after seven P.M. the time of departure of the last train for London, the mails would be delayed until two A.M. the next morning, the time of dispatching the up-day mail-train, *ib.* 95.—Plan suggested of accelerating the North American mails by making Holyhead a port of call, retaining Liverpool as a port of arrival and departure of the packets, *Hill*, 141.—A packet establishment at Holyhead, making up bags for Ireland and for London as now done at Liverpool, would be the greatest practical improvement upon the present system, *Maberly*, 142.—There is no difficulty in making Holyhead a port of call, *Denham*, 148.—If made a port of call, the saving of time would be nearly as much as if the packets started from Galway, and the increased expense very inconsiderable, *Hill*, 206.—The new pier will be sufficiently advanced by the end of the year (1851) to afford perfect shelter for a temporary jetty for the American steamers to lie alongside, *Hamilton*, 233.—The removal of the packet station to Holyhead would increase the cost of goods traffic by removing the port to a greater distance from the seat of manufactures, *Moore*, 208-9.—Holyhead a better packet station than the tidal harbour of Liverpool, *Mulvany*, 290.

INSURANCE:—
The premium of insurance on ships and cargo would be reduced on vessels avoiding the dangers of the channel navigation, *Harrison*, 34.—There would be no difference of premium on vessels voyaging between Liverpool and North America, and between the southern and western ports in Ireland and North America, provided other circumstances than the risks were generally the same, *Halsted*, 97; *ib.* 104.—Statement of premium charged from London to Liverpool, *ib.* 104.—Difference between summer and winter rate, *ib.* 104.—About 10*s.* 6*d.* per cent. charged for insurance of good vessels (A 1.) in summer, and from 30*s.* to 60*s.* per cent. in winter, trading between Galway and Liverpool, *Bedford*, 91.—The rates of insurance between Galway and New York in summer are from 20*s.* to 35*s.* per cent., and in winter from 55*s.* to 63*s.* per cent., *ib.* 91.—The high rates charged for insurance of vessels between Galway and New York attributed to deficiency of lights, vague knowledge of the coast, and also on account of the description of vessels employed, being mostly American built, and some of them not classed, *ib.* 91.—Increased risk the cause of the higher rates charged in winter, *ib.* 91.—The insurance upon goods between England and America, through Ireland, would be increased one-sixth, to cover the additional risk of the passage across the channel, *Chamber of Commerce, Southampton*, 225.—The premium of insurance on goods by an American line ship (sailing vessel) from Liverpool to America, about 25*s.*, while the charge on goods by Cunard's line of steamers is not more than 10*s.*, being a difference of more than 100 per cent., *Cunard*, 124.

IRISH PORTS ON SOUTH AND WEST COAST OF IRELAND:—
Proposed Transfer of Transatlantic Packet Station to—
Berehaven (*See* Berehaven).
Cork (*See* Cork).
Cmokhaven (*See* Crookhaven),
Dunmanus Bay (*See* Dunmanus Bay).
Foynes (*See* Foynes).

IRISH PORTS, &c.—*continued.*
Galway (*See* Galway).
Limerick (*See* Limerick).
Long Island (*See* Long Island).
Tarbert (*See* Tarbert).
Valentia (*See* Valentia).

KINGSTOWN RAILWAY (*See* DUBLIN AND KINGSTOWN RAILWAY).

Kerry, The Knight of, (Analysis of his Evidence):—Has given great attention to the subject of a Western Packet Station, 163.—Doubts the accuracy of the measurements of distance across the Atlantic as set forth by the Commissioners, *ib.*—These measurements differ from those prepared by high scientific authority for the Killarney and Valentia Railway Company, *ib.*—Points out various differences, *ib.*—Objects to the Commissioners taking the same rate of speed for steaming in the Channel as in the ocean, *ib.*—The fogs and risks of collision in the Channel compel a slower rate, *ib.*—Examples in support of this opinion, *ib.*—Observations upon Mr Cunard's evidence on the rate of speed of the British packets in the Channel, 164.—Many persons differ from Mr. Cunard on this subject, *ib.*—Evils of detention at Liverpool in consequence of the state of the tide, *ib.*—Advantages of the west coast of Ireland in having deeper water compared with the shoals at Liverpool, *ib.*—The advantages of an improved description of vessels and machinery considered, *ib.*—Admits that these vessels can only carry the passengers and mails, *ib.*—The question of a western station considered in reference to letters and passengers, *ib.*—Considers that the letters and passengers for Ireland would all be benefitted by this change, and those for England not injured or delayed, *ib.*—One-third of the American correspondence with the United Kingdom said to be Irish, *ib.*—The conveyance of emigrants to America would secure a considerable number of passengers for some time to come, *ib.*—Advantages of a western station in time of war, *ib.*—The southern the ordinary passage of the mail packets, *ib.*—Is aware that the northern passage is occasionally made, but did not know that it was the shortest, 165.—Steam-vessels leaving Ireland from a western port would pay for only two or three lighthouses, while from Liverpool they pay for 23, *ib.*—The saving in lighthouse dues alone in starting from an Irish port would be 62*l.* on each voyage, *ib.*—Advantages of a western station in the embarkation of troops, *ib.*—The western coast of Ireland freer from fogs and currents than the Channel, *ib.*—Evidence illustrative of the advantages of Valentia for a Packet Station, *ib.*—Observation in reply to Sir Robert Hagan's evidence relative to this harbour, *ib.*—Adduces Capt. Wolfe's report on Valentia, in opposition to Sir R. Hagan, *ib.*—The objections to the narrowness of the north-west entrance of no force as against steamers, *ib.*—Description of this entrance, *ib.*—Allows that there is a good deal of sea in a strong north-westerly wind, 166.—Denies that the sea breaks entirely across the entrance, *ib.*—This harbour better liked the more it is known, *ib.*—Capt. Evans, who was very favourably impressed with the advantages of Valentia, said it was impossible for steamers to have a better harbour, *ib.*—Advantages of the Skelligs Rocks to the harbour, *ib.*—Denies that it is a blind harbour, the outlying points of great assistance in leading in, *ib.*—Witness's attention here directed to the evidence of previous witnesses who stated that Valentia was good within, but dangerous to take at night, *ib.*—Witness replies to these statements, and adduces examples of vessels running for safety into Valentia, *ib.*—Evidence relative to the Harbour Rock, and the mode and probable cost of removing it by blasting, 167.—There is a perch upon this rock, *ib.*—It was considered an advantage by Capt Evans, who suggested that a breakwater should be built upon it, *ib.*—Thinks the necessary works and improvements to fit Valentia for a Packet Station should be carried out on the same principle as the building and extension of piers; that is, partly by contribution from the district, and partly by Government loan, and partly by grant. The principle has been, a third loan, and a third grant, and a third levy upon the district, *ib.*—There is no wharf here capable of receiving a vessel of 20 feet draught, *ib.*—The pier has been extended, but not sufficiently for an American packet, *ib.*—Mallow is at present the nearest railway to Valentia, but one would soon be completed if it were made a Packet Station, *ib.*

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Light Dues:—
The transatlantic mail steamers pay 62*l.* for lighthouse dues on each voyage, *Knight of Kerry*, 165.—They pay for 23 lighthouses, starting from Liverpool, but they would only pay for two or three from the west of Ireland, *ib.* 165.

Limerick:—
This port is 60 miles from the sea; the Shannon is navigable for vessels drawing 25 feet at ordinary spring tides, and 21 feet at ordinary neaps. *Randall*, 99; *Carroll*, 99.—Limerick Dock is 21 English miles by the river to Foynes, *Limerick Committee*, 100.—The difficulties of the navigation of the Shannon are between Foynes and Limerick, *Hewson*, 272.—These difficulties more than counterbalance the advantages of its central position, *Mulvany*, 283.—This port is out of the question as a packet station, *Washington*, 131.—No transatlantic steamers could go within 15 miles of Limerick at low water, *ib.* 131.—They might go up at high tide, *Mulvany*, 182.—These vessels could not lie afloat in the pool, *Washington*, 131.—There would be no difficulty in transatlantic steamers going up from Tarbert or Foynes to Limerick to be docked provided they come up by day, or at spring tides, *Griffith*, 159.—Does not think there would be any risk at any time of tide, *Randall*, 196.—No risk with a careful navigator knowing the river, *Long*, 208.—To make it navigable for large steamers at all times of tide by day or night, it would require deepening in many parts, and buoying *Griffith*, 159.—The dangers of the navigation from Foynes to Limerick have been exaggerated, *Long*, 200.—Has carefully and minutely examined all parts of the river, with a view to clear away some of the rocks, *ib.* 200.—There is a good deep channel all the way, with occasional rocks, *ib.* 200.—Many of the rocks can be removed by dredging, *ib.* 200.—They are gradually removed by means of an annual grant, *ib.* 200.—The dock now being constructed at Limerick will afford floating accommodation of more than 7½ acres, *Randall*, 99; *Carroll*, 99.—Length of dock about 800 feet, and breadth 410 feet, 18½ feet deep at ordinary neap tides, above bottom of dock, *Randall*, 100.—The entrance, as at present designed, will be 50 feet wide, but can be increased, *ib.* 100.—The depths at ordinary springs, 22½ feet, extraordinary springs, 25 feet, ordinary neaps, 18 feet, *Carroll*, 100.—The river way, approaching the harbour and dock, affords several feet greater depth, *ib.* 100.—The wharfage round the dock will be 2,420 feet in length, and varying in breadth from 80 to 140 feet, *ib.* 100.—It is a tidal dock with single gates, and will be completed in about two years, *ib.* 100; *Griffith*, 159.—The entrance might be increased to 80 feet, by making a double-constructed lock, the upper part being 80 feet, and the lower part 50 feet, so as to allow the paddles to go over, *ib.* 159.—This might be done without materially increasing the expense, *ib.* 159.—The outer wharf is now completed, and provided with stone landing steps, &c., and steam vessels drawing 5 or 6 feet of water, and 120-horse power, might easily lie alongside at low water, *Limerick Committee*, 100.—100,000*l.* has been laid out upon the docks at Limerick, and an additional 50,000*l.* has been granted by the Government, *Griffith*, 158.—No portion of the principal has been repaid, and the interest is paid very irregularly, *ib.* 158.—The receipts, however, are increasing, *ib.* 158.—The entrance of this dock could be increased to 80 feet to admit transatlantic steamers, without materially increasing the expense, *Griffith*, 159; *Mulvany*, 184.—Further and more detailed particulars relative to this dock, *Griffith*, 234.—The price of Welsh coal at Limerick, about 14*s.* a-ton, *O'Brien*, 183.—Coal has been purchased at Limerick for 10*s.* a-ton, but this depends upon the back freight, *Long*, 183.

Littledale, Thomas, Esq., and Bold, Thomas, Esq. (Analysis of their Evidence):—
Mr. Littledale: Is chairman of the Liverpool Dock Company, 203.
Mr. Bold: Is a member of the Committee of Management of the Liverpool Docks, *ib.*
Mr. Littledale: The Dock Company has recently constructed a dock of 15 acres solely for the reception of the large first-class American packets, 203.—Also a graving-dock with 80 feet gates, to take in these large steamers, and to have them repaired close to the dock in which they generally lie. There are six other graving-docks, two of 70 feet and two of 80, which are amply sufficient for Cunard's line of boats, 204.—The Huskisson graving-dock used exclusively for Collins's line of packets, *ib.*—The repairs are done in this dock, *ib.*—Does not remember any instance of Cunard's packets having been repaired in the Clyde; all the necessary repairs have hitherto been done in the docks at Liverpool, *ib.*—Liverpool very advantageously situated for a transatlantic Packet Station, *ib.*—Its vicinity to the manufacturing districts, and the facilities afforded by the railways, offer advantages possessed by no other port in the kingdom, *ib.*—The large steamers cannot be docked at Liverpool at neap tides, *ib.*—The water over the sill of the new docks will be 17 or 18 feet at neap tides, and 25 feet at spring tides, *ib.*—Collins's vessels of greater draught than the Cunard packets, *ib.*—The steamers leave as early in the day as they can after the arrival of the mail, *ib.*—They always go into the stream to be in readiness to take the letters, *ib.*—Description of the arrangements made for taking the letters up to the time of starting, *ib.*—Does not think there would be any difficulty in sorting the letters on board the packets, *ib.*—The Liverpool merchants would rejoice in such an arrangement, as it would expedite the delivery of their letters, *ib.*—The delivery of letters now made in Liverpool about four hours after the arrival of the steamer, *ib.*—Postal communications between Liverpool and America now three times in a fortnight, 204-5.—The Cunard packets start every Saturday, and the American packets on alternate Wednesdays, *ib.*—More frequent communication not generally desired, *ib.*—The Southampton packets not used by the people of Liverpool, *ib.*—Considers starting from the port a great advantage. Liverpool much resorted to by Americans, the commercial and trading interests being so intimately connected, *ib.*—A saving of 12 hours on the passage to America would not compensate for the additional trouble and inconvenience of starting from Galway, *ib.*—Few emigrants go out in steam-vessels on account of the expense, *ib.*—Emigrants from Ireland embark at Liverpool for America in immense numbers, *ib.*—They come from various ports, chiefly from the south and south-east coast, for about a shilling each, *ib.*—167,000 emigrants embarked at Liverpool in January, 1851, for America, *ib.*—Particulars of the quantity and description of goods and baggage usually taken by emigrants, *ib.*—Goods to a great extent are sent from Belfast to Liverpool for transhipment to America, *ib.*

Liverpool.—I. Its Advantages for a Packet Station:
1. *Facility and Safety of Approaches.*—Liverpool safe to approach under ordinary, or even extraordinary circumstances, *Belcher*, 170.—It is the most eligible port for departure as well as arrival, *ib.* 30.—It combines all the important features necessary for the packet service, *ib.* 30.—It is easier of access than any of the Irish ports on the west coast, *Caffin*, 12.—It has good anchorage, and 14 fathoms when the packets are impeded by fogs or other obstacles, *Belcher*, 30.—The easy means of arrival and departure at nearly all hours of the tide, day and night, render this port the most suitable for a packet station, *Trustees of Liverpool Docks*, 107.—No instance has ever occurred of any of the mail packets touching ground on their arrival or departure, *ib* 207.—Nor of any delay, except upon one occasion, when the mails could not be put on board in a gale, *ib.* 207.—No delay takes place from want of water to cross the bar, the time for starting being varied to suit the tide, *M'Iver*, 55.—Statement of the levels of the tides observed at Liverpool, *Bevis*, 99.—The British packets go into port at night as frequently as by day, *Cunard*, 129.—The option of taking either northern or southern passages, in starting from Liverpool, a great advantage, which would be lost if the station were removed to Holyhead or Ireland, *ib.* 127; *Trustees of Liverpool Docks*, 208.—In the homeward voyage the option of taking either passage is likewise of great importance, *Belcher*, 32.
2. *Facilities for Repairs of Machinery and Vessels.*—These docks very extensive, and extend over a space of more than three miles of sea wall, *Bevis*, 97.—The Huskisson and Coburg Docks used for steamers of the very largest class, *ib* 97.—The time for opening the gates for ingress and egress of vessels depends upon the level of water inside and

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Liverpool—*continued.*
outside, which varies from an hour or an hour and a half before high water, *ib.* 97.—Statement showing the area of water, quay space, width of entrance, depth of sill, &c., in the various docks in Liverpool, *ib.* 97-99.—The extreme length of the river wall belonging to the Dock Estate is 3 miles 1713 yards, *ib.* 98.—A dock of 15 acres has been made solely for the reception of the large first class American steam packets, which will shortly be opened, *Littledale*, 204.—A graving dock, with 80-feet gates, has also been made for the same purpose, *ib.* 204.—The Huskisson graving dock used exclusively by Collins's packets, *Bold*, 204.—All but the heavy repairs done in these docks, *ib.* 204.—No other port in the kingdom has accommodation equal to the graving docks, *Chapman*, 217.—From their great width, they are comparatively useless for sailing vessels, *ib.* 217.

3. *Its Central Position for the Majority of Passengers, and for Goods.*—It is the centre from whence freights are supplied, *Caffin*, 12.—For general commerce, Liverpool is the best port in the kingdom for a packet station, *Norcock*, 30.—It is very central, close to the manufacturing districts, with every facility by railway to all parts of England, *Bold*, 204.—It is the great central depôt for passengers, as well as goods, *Trustees of Liverpool Docks*, 207; *Moore*, 208.—The cotton trade, in itself of enormous value, centres exclusively in Liverpool, *Chapman*, 218.—Liverpool the capital of all American commerce, *Moore*, 208.—Goods for the American market are sent from Birmingham, Manchester, Sheffield, London, Glasgow, and Liverpool, *Caffin*, 11.—Liverpool the only port for the whole of this trade, *ib.* 11; *Chapman*, 218; *Moore*, 209.—The real business of America is done in Liverpool, principally by cotton manufacturers and spinners, *ib.* 213.—The correspondence, almost entirely centres in Liverpool, or the country behind it, *Maxwell*, 216.—Memorial of the American Chamber of Commerce of Liverpool, praying that the packet station might be retained at Liverpool, 334.—Memorial of Liverpool Ship Owners' Association to the same purpose, 335.

Liverpool and Philadelphia Steam-ship Company. Return showing the size, power, tonnage, and proposed rates of freight and passage of the "City of Glasgow," screw steamer, the first ship of this company to run between Liverpool and Philadelphia, 244.—Other steamers are in contemplation for this line, but are not sufficiently forward to be enumerated, 204.

Lloyd, Thomas, Esq. (Analysis of his Evidence):—Is chief engineer under the Admiralty, 159.—A dry dock is very convenient, but not at all essential to a Packet Station, *ib.*—The public would sustain no interruption from want of a dry dock at the port, *ib.*—Nature and extent of the inconveniences which would be felt from the want of such a dock, *ib.*—The only increased expenses would be the expenses incurred by sending the vessel to the nearest port, *ib.*—Iron vessels require more frequently to be docked than wooden vessels, to clean their bottoms, *ib.*—There is a dock at Southampton, and a dry dock capable of receiving the largest vessels, *ib.*—Until recently there was no dry dock here capable of receiving large vessels, 160.—The packet service was carried on for several years without a dry dock, *ib.*—No serious inconvenience sustained on this account, *ib.*—The Government service was carried on very efficiently in the Mediterranean without a dry dock, *ib.*—The steamers not docked unless they meet with some serious accident, *ib.*—When they require to be docked they are sent to England, *ib.*—The patent slip at Malta nearly as good as a dry dock for most purposes, *ib.*—Vessels not usually docked except in cases of accident, unless they require general repairs, *ib.*—General repairs required every three or four years, *ib.*—Accidents to steam-vessels usually occur in making land, *ib.*—Case of the "Manchester," which was damaged on the Fish Bank, and ran into Dublin for repairs, which could not be done there, and was lost between Dublin and Liverpool, on her passage to get repaired, *ib.*—The greater part of the machinery can be repaired on board, without taking the vessel into dock, *ib.*—A dry dock only necessary to repair the hull, *ib.*—Docks or wharves with deep and quiet water essential to the business of large steam-packets, *ib.*—The engines could not be put on board from any port in Ireland, *ib.*—Serious and extensive accidents to hull or machinery would require the vessel to be sent to the maker for repair, *ib.*—Repairs which would require the engine to be taken out could not be executed except at very large establishments, such as the Government factories, &c., *ib.*—Large steamers are built and fitted out in the Clyde, but they cannot get docked there, 161.—London, Liverpool, and Southampton the only places where large steamers can be docked, *ib.*—In the Clyde the large steamers are hauled up on slips for repair, *ib.*—A patent slip not so convenient as a dry dock, but it is very inexpensive, *ib.*—All the necessary repairs can be made by means of a patent slip, *ib.*—The Southampton packets until recently were all sent to London to be repaired, *ib.*—Thinks a small manufactory would suffice for all necessary repairs at a western port, *ib.*—Ordinary repairs usually done by the mechanics attached to the vessel, *ib.*—Repairs to the boilers might be done on the spot, *ib.*—When they require to be taken out, they are rarely considered worth putting in again, *ib.*—Thinks very inexpensive arrangements would suffice for the repairs of vessels and machinery at a western port; larger means might be more convenient, but less economic, *ib.*—All the repairs usually required in two years might be done by the persons employed in the vessels, *ib.*—Necessity for a minute examination of vessels after two or three voyages, especially those in constant work, and using their steam at a high rate, *ib.*—Woolwich and Portsmouth the only establishments in Great Britain for the repairs of Government steamers, *ib.*—Government vessels rarely repaired on foreign stations, *ib.*—Government steamers sail more and steam less than the mail packets, *ib.*—Does not think those vessels are under steam a fifth of the whole time they are in commission, *ib.*—Thinks the mail-packet service would be contracted for at a less sum from Liverpool than from the west of Ireland, on account of the facilities of the English port, 162.—The advantage of shorter distance has to be balanced against the disadvantage, *ib.*—A little reduction in the length of the voyage a matter of great importance where high speed is concerned, *ib.*—The expenses of the ship's engines, &c., increased with the length of the voyage, *ib.*—An addition of a few hundred miles requires a larger ship, carrying more fuel, and going slower, *ib.*—The time of making the voyage consequently increased proportionally more than the length of the voyage, *ib.*—Considers there would be no difficulty in building steamers to go across the Atlantic at an average rate of 15 knots an hour, *ib.*—By lessening the distance of the voyage, the speed could be increased, *ib.*—A vessel built to go from Liverpool to New York at the same rate of speed as one running from the west coast of Ireland to New York must be larger and more costly than the latter, *ib.*—Cannot without further consideration estimate the difference of expense caused by increasing the length of the voyage 300 miles, *ib.*—15 miles an hour cannot be constantly maintained in a vessel carrying much goods, *ib.*—The difference in the draught of water at the commencement and termination of long voyages a great difficulty in determining the construction of the vessel, *ib.*—Improving the form of the vessel would lessen the difference, *ib.*—Increasing the rate of speed increases this difficulty, because the consumption of fuel is greater, 162-3.—For the sake of speed, would make a steam-vessel of 2,000 tons 280 or 290 feet long, 163.—To obtain a speed of 15 knots an hour the vessels must be built very sharp, *ib.*—Considers sharp vessels better than the bluff ones at sea, *ib.*—The steamers of Cunard's and Collins's lines have done as well as any large vessels, but they would have been better if they had adopted the improvements in the best sea-going vessels, *ib.*

Long, John, Esq. (Analysis of his Evidence):—Is an engineer; and at present is occupied as resident engineer in the dock-works at Limerick, under the Board of Works, 199.—Is well acquainted with the whole of the Shannon, *ib.*—Concurs generally with preceding witnesses on that Foynes on the whole is the point best adapted for the purpose of establishing a transatlantic packet station on the river Shannon, *ib.*—If this were carried out a railway would be made from Foynes without difficulty, *ib.*—This opinion corroborated by Mr. Wyndham Goold, a considerable shareholder in the Great

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Long, John, Esq.—continued.
Southern and Western Railway, *ib.*—The country between Limerick and Foynes generally level, presenting no engineering difficulties, *ib.*—There would be no difficulty in reaching the station and dock at Limarick, *ib.*—Coal from Arigna mines now selling at the pit's mouth for 4*s* a-ton: for 6*s*. more it could be brought to Limerick, *ib.*—These mines are worked in a very rude way, and not in large quantities, *ib.*—Quality of this coal described, 206.—Considers the dangers of the navigation from Foynes to Limarick have been exaggarated. Has carefully examined this part of the river with a view to clearing away some of the rocks. A large expenditure not necessary to improve the navigation, *ib.*—The chief impediment could be removed by dredging, *ib.*—They are in course of removal, *ib.*—A careful person acquainted with the river could take a large steamer from Foynes up to Limerick, *ib.*—Considers Galway at present without a harbour, *ib.*—Thinks an expenditure of hundreds of thousands of pounds would be necessary to fit it for a Packet Station, *ib.*

Mr. Mulvany:—Vessels now use the roadstead as a harbour, and ride out the gales in safety, *ib.*

Mr. O'Flaherty and Admiral Robinson:—Confirming former evidence relative to the safety of vessels in the roadstead during heavy gales, and their uninterrupted communication with the shore, *ib.*

Mr. Long:—Decidedly prefers Foynes to Tarbert, 201.—It is better sheltered than Tarbert, *ib.*—Description of the works necessary for making Tarbert a good harbour, *ib.*—Fogs not more prevalent in the Shannon than on the coast, *ib.*

Lord Monteagle:—Specifies facilities for making a railway from Limerick to Foynes or Tarbert, 201.—The country level and not difficult; two rivers, the Deel and Mague, would have to be crossed by swivel bridges, *ib.*—The estimate for a single line of rails not more than 7,000*l.* a-mile, exclusive of the purchase of the land, *ib.*

Capt. Randall:—The Lydia coal of South Wales the best for steaming; they could be put on board the bulk in the Shannon at 15*s* a-ton, *ib.*—The price of this coal would be higher at Galway, *ib.*

Long Island Channel:—
I. Description of —
1. *Generally.*—Long Island Sound is very commodious, sufficiently deep, and perfectly safe for all kinds of shipping, *Hoare*, 29.—An admirable spacious anchorage, smooth and deep water, and no tides, *Irwin*, 84.—A very good harbour, but cannot be approached at night, *Driver*, 58; *Brown*, 60.—Having two entrances, east and west, it appears easy of access and egress in almost all winds, *Norcock*, 29.—A long, narrow sound with smooth water, and good holding-ground, *Wingrove*, 60.—The entrance good, but not easy to make at all times, being close to several small low islands, *ib.* 66.—A good harbour when inside, *Caffin*, 62.—Long Island Sound or Channel is a narrow passage, with two entrances, *O'Malley*, 78.—Both entrances are narrow and must be approached with caution, *Ladd*, 65.—A beautiful and safe anchorage, *Scott*, 84.—An admirable harbour of refuge, *Washington*, 130.—The channel has sufficient depth of water, and space to swing at, sufficient for the largest steamers, *Church*, 14.—Skull Harbour, inside Long Island Channel, is suited to vessels drawing 19½ feet of water, *ib* 14.

2. *Lights and Headlands.*—The approach from the ocean is well marked by the Fastnet Rock (which will shortly be lighted), by Mizen Head and Cape Clear, but from the Fastnet the course is exceedingly blind and indistinct, *Church*, 14.—The entrance is good, but not easy to make at all times, being close to several small low islands, *Wingrove*, 60.—The entrance is intricate, and difficult of approach by night, *Brown*, 60.—The approach, except in clear weather, extremely hazardous, *Scott*, 84.—Easy of access by day, but not a place to run for in thick weather, or at night, *Cragg*, 85.—It is considered a dangerous and hazardous place to run for, *Hungerford*, 26.—The island is low, and difficult to be distinguished from the main land, when quite close to it, *O'Malley*, 78.

3. *Rocks and Shoals.*—The Carrig-na-budalough, a rock in the fairway of the usual approach from the south-west towards the east point of Long Island, has 4 fathoms of water over it at low-water springs, *Church*, 14.—In heavy gales from the south-west it breaks at low-water springs, *ib.*—Dangerous rocky ground extends westward from Castle Island, on the east side of the eastern passage into Long Island Channel, but there is sufficient breadth to clear it, *ib.* 14.—This place objectionable, on account of some rocky shoals about it, *Smith*, 68; *Goss*, 69.—A small bank lies about half a mile off the inside of the island, *Burke*, 77.

4. *Anchorage Ground, &c.*—The anchorage is very good and smooth, *Church*, 17; *Marmion*, 34.—A very safe harbour, and secure from any wind, *Brown*, 60; *Aylen*, 62.—It affords shelter in all winds at any time of tide, and for vessels of any size, *Ladd*, 65.—A snug harbour, *Smith*, 68.—It is well sheltered, with good holding-ground, and moderate water, *Kelly*, 71.—A safe anchorage for large ships, *Burke*, 77.—An admirable spacious anchorage, smooth and deep water, and no tides, *Irwin*, 84.—A beautiful safe anchorage, *Scott*, 84.—The holding-ground is very good, both in Long Island Channel and Skull Harbour, *Church*, 14.—There is nothing at present in the shape of a jetty or landing place; not even a clear space through the rocks down to low-water mark, *ib.*17.—In Skull Harbour, a pier has recently been built, at which boats and small craft could land passengers, mails, and light cargo, in all weathers, *ib.* 17.—This harbour is suitable for steamers drawing 19½ feet of water, *ib.* 14.

5. *Docks, Wharves, &c.*—There is no jetty or landing place, *Church*, 17.

6. *Repairs of Machinery, &c.*—No repairs could be done to boilers, machinery, or vessels, *Church*, 17.—A small amount of accommodation could be had for passengers at Skull, but none at Long Island Channel, *ib.* 17.—There is no accommodation for storing goods, &c., *ib.* 17.—Supplies of fresh provisions of all kinds could be obtained, *ib.*

7. *Price of Coal, &c.*—There is no coal at present used in Long Island Channel or Skull; turf is the fuel used, *Church*, 17.—Coal could easily be supplied at Long Island as cheap as at Berehaven, viz., 16*s.* a ton, *ib.* 17.—Coaling would be done alongside a hulk kept moored for the purpose, *ib.* 17.

8. *Inland Communications.*—The intercourse inland from Long Island Channel, or rather Skull Harbour, is limited to the daily mail car to Skibbereen, and the carriage of agricultural produce in a primitive manner, *Church*, 18.—The country in the vicinity presents considerable engineering difficulties to the construction of a railroad, *ib.* 18.—The night mail leaving London at 8 P.M. reaches Skull Post-office at 3·20 P.M. the next day but one, *Maberly*, 87.—The night mail leaves Skull at 8·20 A.M. and reaches London at 5 18 A.M. on the next morning but one, *ib.* 88.

9. *Pilotage.*—The fishermen of Cronkhaven are pilots, but without authority, for Long Island Channel, *Church*, 18.—They are hardy men, and some of them tolerably skilful, *ib.* 18.

II. Its Advantages for a Packet Station:—
Unquestionably a very good harbour, and only seven miles out of the direct route for America, *Bernard*, 202.—It would require very little outlay to fit it for a packet station, *ib.* 202.—An excellent harbour, affording plenty of room, smooth water, and no tide, *Carter*, 70.—A vessel can choose her depth, and enter or leave in any weather, *ib.* 70.—In moderately clear weather, *when lighted and beaconed*, it would be a safe place to run for in any gale with a good steamer, *Church*, 14.—It is capable of affording shelter in all winds and at any time of tide when wind bound, or unable to keep an offing, *Ladd*, 65.

III. Its Disadvantages for a Packet Station:—
A place only to be run for in fine clear weather, and not at all adapted in any respect for a packet station, *Risk*, 20.—A dangerous place to run for, *Hungerford*, 26.—Although easy of access and capable of affording shelter and accommodation to wind-bound or disabled vessels, Long Island is not calculated for a packet station, *Marmion*, 34.—A very good harbour, but it cannot be approached at night, *Driver*, 58.—It will not do for a packet station, *Laen*, 58.—The entrance is narrow and difficult of approach by night, *Brown*, 60.—It is unfit for a packet station as it cannot be entered at night, *Aylen*, 62; *Ladd*, 66.—It is objectionable on account of some rocky shoals about it, *Smith*, 68.—It is not fit for large vessels nor safe to run for in a gale of

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LONG ISLAND CHANNEL—Its Disadvantages, &c., *continued.*
wind or in thick weather, *O'Malley*, 78.—It is difficult to make in dark nights or thick weather, *Irwin*, 84.—It is extremely hazardous to approach except in clear weather, *Scott*, 85; *Cragg*, 85.—Both entrances being narrow, the Sound must be approached with caution even by a pilot who knows the coast well, *Ladd*, 65.—It is too dangerous to run for, on a dead lee shore with rocks in its way, *Goss*, 69.—A blind harbour at night, *Hutchinson*, 82.—Difficult to make in dark nights or thick weather, *Irwin*, 84.—Its approach, except in clear weather, extremely hazardous, *Scott*, 85; *Cragg*, 85.—With a westerly or south-westerly gale there is a heavy sea off the entrance of Long Island, *Caffin*, 62.

IV. IMPROVEMENTS AND WORKS REQUIRED:—
To make it fit for a packet station, a conspicuous light should be shown on the eastern end of Long Island, and a beacon on Goat Island, *Church*, 14.—The "Carrig-na-budalough," a rock nearly in the fairway of the usual approach from the south-west, should be buoyed, *ib.* 14.—A light must be placed at the east entrance before the Channel could be taken at night, *Burke*, 77.

Maberley, Lieut.-Colonel William Leader, and Hill, Rowland, Esq.—(Analysis of their Evidence):—
Col. Maberly attaches very little practical importance *at present* to the question of an Irish Packet Station, 138.—It cannot be disconnected from the traffic in goods and passengers, *ib.*

Mr. Hill:—Is of opinion that so far as the convenience of the Post Office is concerned, the port for the despatch and arrival of the American mails cannot be too far west; provided it is not beyond the reach of railway communication, 138.—This, partly because the progress by railway is quicker than by steam-boat, and partly because the western parts of the empire would be better served from a western Packet Station, *ib.*—If a port of call only is intended, the choice of ports would be limited to those ports near to which the packets now pass, 139.—In this case Galway, Limerick, and even Cork, would be too far out of the direct route, *ib.*—If a permanent Packet Station is in contemplation, the question resolves itself into the amount of passengers' and goods traffic which might be anticipated as the cost of carrying the mails would be determined by these considerations, *ib.*—Fears there is little hope that the transfer could be made to a western port without considerable additional expense to the Government, *ib.*—The advantages of an earlier delivery could not be secured without incurring a very large additional expense, *ib.*—Thinks it would not be convenient to the majority of the passengers to embark and disembark at Galway. The majority of the passengers presumed to be from England and Scotland, and their convenience would be opposed to an embarkation at Galway instead of at Liverpool, *ib.*—As regards goods, the case is very decidedly in favour of Liverpool; the packets carry a considerable quantity of light goods, *ib.*—These are silks and muslins, and other light goods, many of which are manufactured at Manchester. Light goods, which would bear a heavy charge for freight, are taken in considerable quantities, *ib.*—In speaking of increased expenses, refers to inland conveyance alone, because it would not be necessary or desirable to create a new sorting establishment at the Packet Station, whether it be one of call or otherwise, *ib.*—The cost of a staff sufficient to sort the American mail is estimated at about 2,300*l.* a-year, *ib.*—Thinks the transfer of the Packet Station to Galway, or any other port, does not necessarily imply the establishment of a sorting staff at that port, *ib.*—Would take the letters to Dublin to be sorted, *ib.*—The mails are now despatched from the United States and from Canada assorted to a certain extent. The Irish letters are, to a considerable extent, but not entirely, separated from the English and Scotch letters already, *ib.*—Arrangements which would be made to complete this separation, *ib.*—Would recommend that the English, Scotch, and Irish mails should be sent direct to Dublin, where there is a large sorting staff already established, 139.—The greater part of Ireland would be served as speedily through Dublin as in any other way, *ib.*—As regards the greater part of Ireland, nothing would be saved by sorting the letters at Galway; for, if

Maberly, Col., and Mr. Hill—continued.
sorted at Galway, they would still have to pass through Dublin, *ib.*—Irrespective of expense, a sorting in Dublin would be preferable to a sorting in Galway, as the first would never interrupt the progress of the mails, whereas the second would sometimes cause serious delay, *ib.*—Belfast would be better served through Dublin from Galway, Limerick, or Valentia, *ib.*—These arrangements would not cause any additional expense if the ordinary mail trains are continued to be used, *ib.*—The employment of express trains for the conveyance of the mails would cause great additional expense, *ib.*—To obtain the full advantage of a western station the mails should be sent express from Galway to Liverpool; but this would cause enormous expense, *ib.*—The letters between Liverpool and London are taken by the ordinary trains, *ib.*—Increased rapidity of transmission unquestionably tends to increase the number of letters sent, *ib.*—Thinks doubling the speed, if that were practicable, would increase the number of letters more than doubling the frequency of the departures. They are already very frequent, *ib.*—By using the express trains, 10 or 12 hours might be saved by delivering the letters at Galway, *ib.*—As regards the outward mail, the whole time would be saved, because the despatch can be regulated according to the trains, and the packet may sail immediately on the arrival of the train, *ib.*—As regards the inward mail, sees no chance of effecting any material saving of time in the distribution of the English and Scotch letters, except by incurring a very serious expense for express conveyance all the way from Galway, *ib.*—The increase in the correspondence would be very trifling if the saving of time were not more than 12 hours, *ib.*—About 25 miles an hour, including stoppages, about the average speed of the mail trains, *ib.*—The Postmaster-General not entitled to demand more than 27 miles an hour, unless there are swifter trains upon the same railway, *ib.*—The mails conveyed quickest on the Dover line at the rate of 35 miles an hour, 140.—A speed of 30 miles an hour might be obtained by special agreement with the Irish Railway Companies, *ib.*—Time which would be occupied in taking the mails from London to Galway, assuming the railway between Dublin and Galway to be completed, *ib.*—By using express trains, 8 hours might be gained, *ib.*—Extra cost of such an arrangement 2000*l.* per annum for the outward voyage, or about 4,800*l.* per annum out and home, *ib.*—This does not include the extra expense for special packets, *ib.*—Opinion as to the probable increase of letters by doubling the speed, *ib.*—Does not think that the gain of a few hours on a passage of so many days would materially increase the number of letters. It would scarcely produce any appreciable effect on the amount of correspondence *ib.*—The increase would not be worth the expenditure, *ib.*—The Irish correspondence with America, though numerically important, does not possess the same commercial importance as the English correspondence; it is chiefly between emigrants and their friends at home, *ib.*—All letters for North America are sent by the first packet, whether United States or British packets, unless special directions are given to the contrary, 141.—The convention with the United States includes the whole of the United Kingdom, *ib.*—Witness does not recommend the transfer of the packets to Ireland; but is prepared to state in what way the correspondence may be considerably accelerated at a comparatively small expense, *ib.*—Description of the proposed arrangement, *ib.*—Making Holyhead a port of call for arrival and departure of the mails a part of this arrangement, *ib.*—If this were carried out, Liverpool and all parts served through Liverpool would save three hours, and London five hours, *ib.*—The saving in Ireland would be more considerable, *ib.*—The Government empowered to make Cunard's packets touch at Holyhead; but have no power over the American packets, *ib.*—The landing at Holyhead, instead of going on to Liverpool, would, in nearly all cases, make the difference of at least half a day, and, in the majority of cases, of a whole day, *ib.*

Col. Maberly:—Has always been of opinion that the transfer of the Packet Station to Ireland is wholly impracticable.—Thinks the Government could not sanction it consistently with that economy with which it is necessary that the Post Office should be managed, to inspire confidence, *ib.*—All

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Maberley, Col., and Mr. Hill—continued.
post-office questions are subordinate to economy of arrangement. The starting of the packets from a port from which there would be no passenger traffic, and no goods traffic, would involve such considerations of expense, that the Government could not possibly undertake it, *ib.*—In the present case the passenger and goods traffic would be transferred to the foreign competing line, *ib.*—These packets can only be supported by passengers and goods, *ib.*—If the Government order the transfer of the packets to a station where there would be lost the difference of 50,000*l.*, 60,000*l.* or 80,000*l.* a-year must be paid to the contractor, *ib.*—There would be no goods exported from a western port, the expense would be too enormous, no company would stand the competition, *ib.*—Thinks the proposed transfer altogether impracticable. Cannot see that any gain would result from it, *ib.*—Quick communication with America is wanted for the correspondence of Manchester, Liverpool, and the manufacturing districts, *ib.*—Irish correspondence for the most part mere gossip, *ib.*—Belfast would be more quickly served from Holyhead through Dublin than from Galway. Thinks the plan of running direct for Holyhead most feasible. A packet establishment at Holyhead, making up bags for Ireland and for London, as Liverpool now does, by far the most practical arrangement, *ib.*

Mr. Hill:—Under the plan proposed by witness there would be no sorting at Holyhead; the sorting staff would remain at Liverpool, as at present, *ib.*

Col Maberly:—Sorting must always take place where a great mass of letters are collected together; at such places a large sorting staff is always established, 142.—Evidence illustrative of the existing sorting arrangements at several places, *ib.*—A large and efficient sorting staff at a distance from the port more expeditious in despatching letters than an inefficient one at the port of embarkation and disembarkation, 143.—A great sorting establishment always necessary at Liverpool on account of the great number of letters sent by the American packets. These packets not under the control of the British Government, and would still go from Liverpool if the British packets were transferred to a western port, *ib.*—This would compel the continuance of the sorting staff at Liverpool, *ib.*

Mr. Hill:—A sorting staff at Galway, even if as large as that at Liverpool, would be less efficient because it would have less practice than at the latter place, *ib.*—The staff at Dublin is larger than that at Liverpool; but it would not be necessary that they should sort the English letters at Dublin; they would only sort the Irish letters, *ib.*—A large sorting staff at Holyhead not necessary if that place were made a port of call; a small addition, such as an extra porter or two, would suffice, *ib.*—The Irish mails now go direct to Ireland without being sorted, *ib.*

Col. Maberly:—Specifies the particulars of the Post Office convention with the United States, *ib.*—There would be no difficulty in altering these arrangements if it were considered desirable, *ib.*—Practical difficulties which occur in sorting letters in America for places in England, *ib.*—Ordinary trains, generally more serviceable than express trains, especially for intermediate stations, therefore preferred, 144.

Mr. Hill:—If an express train were employed for carrying the mail from Dublin to Galway, or any other Irish port, the letters from the country towns in Ireland would have to be sent to Dublin, though they might be the letters of towns by which the express actually passed, 144.—The gain of speedier communication between the two extreme points might be more than counterbalanced by greater delays in delivering the letters for the intermediate stations, *ib.*—England and Scotland would gain by an express train between Dublin and Galway, but the Irish letters would be actually delayed, and not accelerated, *ib.*—Examples in explanation of this evidence, *ib.*—Belfast would gain 41 hours of Galway, were the station and the railway completed to Dublin, and 20 hours if the mails were landed at Holyhead, 145.

Hill, Rowland, Esq. (Second Examination):—Evidence relative to the sorting, or partial sorting, of the transatlantic mails on the voyage, 205.—Strong objections entertained to sorting letters on board, but these objections did not apply to newspapers,

Maberley, Col., and Mr. Hill—continued.
ib.—Statement of the number of newspapers on each arrival of the packet, *ib.*—Space required on board for sorting newspapers, *ib.*—This space could not be given at a less expense than 20,000*l.* a-year, *ib.*—This project abandoned on account of the expense, 206.—Doubts whether the gain of time by sorting the letters on board (if the objections now felt were removed) would compensate for the extra expense which would be incurred, *ib.*—Thinks that comparatively little advantage would be gained by more frequent dispatches, *ib.*—Present extent of packet service between England and America, *ib.*—Times of starting of British and of American packets, *ib.*—By doubling the number of Cunard's packets a saving of 17 hours would be made on all the correspondence, but as great a saving of time would be effected by transferring the port of departure to Galway, still keeping the number of packets as at present. *ib.*—If the comparison were made with Holyhead instead of Liverpool, the saving by going to Galway could not be so great, *ib.*—The dispatch of letters from Great Britain to America now made on an average every fourth day throughout the year, *ib.*—If increased trade led to increasing the number of steamers, the letters would be more frequently dispatched, *ib.*—Increasing the communication increases the number of letters, but not to the extent anticipated, *ib.*—Proposes, to accelerate their delivery, that the Irish letters should be separated in America from the letters for Great Britain, and left at Holyhead, 207.—This would save 21 hours upon the Irish correspondence, *ib.*

MAILS:—
United States and British North American Colonies.—The mails for America are made up at Liverpool and dispatched sometimes by British and sometimes by United States packets, *Maberly*, 88.—The British packets leave Liverpool every Saturday between April and November, and every alternate Saturday during December and January, February and March, *ib.* 88.—The United States packets leave Liverpool every fortnight, *ib.* 88.—The time of dispatch varies with the state of the tide, *ib.* 88.—An United States mail packet is also dispatched on the 20th of every month from Southampton for New York, *ib.* 88.—Bags for the United States, and for the North American Colonies, are made up in London on the night previous to the dispatch of the packet from Liverpool, *ib.* 88.—These bags contain all letters arriving or posted in London on the same day, *ib.* 88.—Letters for America posted previously are sent to Liverpool, and included in the mails made up there, *ib.* 89.—Statement of the facilities afforded at Liverpool for posting letters for America up to the last moment of the packet starting, *Cunard*, 127.—All letters for North America are sent by the first packet, whether British or American, unless there are contrary instructions on the face of the letters, *Hill*, 141.—The mails for England from the United States and British North American Colonies are made up in two divisions, the letters for London being in one bag, and those for all other parts of the United Kingdom in another bag, opened and distributed at Liverpool, *Maberly*, 88.—The letters for Liverpool are first delivered, and the bags for London and letters for other parts of the Kingdom are dispatched by the first ordinary mail train, *ib.* 88.—Letters directed to be forwarded "*by private ship*" are forwarded by the first ship not a mail packet ship sailing after their being posted, *ib.* 88-9.—Statement of the number of letters dispatched by packet from Liverpool to the United States and British North America during the fortnight ended 8th December, 1850, *ib.* 89.—Also of the number received at Liverpool by packet from the United States and British North America during the same period, *ib.* 89.—Also of the number of letters received at Liverpool by packet from the United States and British North America by two separate mails received respectively on the 21st and 28th December, 1850, *ib.* 90.—And of the number dispatched from Liverpool for the United States and British North America by the mail of the 1st February, 1851, *ib.* 90.—About one-third of the letters brought by the mail steamers directed to Ireland, *Shea*, 120.—The mails formerly conveyed monthly in the old 10-gun brigs, which cost the Government 40,000*l.* a-year, and many valuable lives, *Cunard*, 123.—Witness proposed 13 years back to establish a line of ocean steamships for this service, *ib.* 123.—This suggestion favourably received by the Government, and even-

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MAILS—*continued.*
tually accepted, *ib.* 123.—Witness's first contract was to perform the service twice a month with three vessels of 300 horse power, *ib.* 123.—Larger and more powerful vessels subsequently found to be necessary, and their size has been increased from time to time, *ib.* 123.—The contract extended four years on account of this immense outlay, *ib.* 124.—Messrs. Cunard receive 145,000*l.* a-year for the conveyance of the mails, but the postage received is quite equal to this sum, *ib.* 124.—There are 74 packets each way in the course of the year, 43 British and 31 United States packets; this number expected shortly to be increased to 86, by increasing the number of United States packets to 43, *Hill*, 206.—(*See* also British and North American Royal Mail Steam Packets.)

Brazil.—The mails from Brazil are landed and opened at Falmouth, and the letters are forwarded by the first ordinary or mail train, *Maberly*, 88.

West Indies, East Indies, and Peninsula.—The mails from these places are landed at Southampton, and are dispatched for London by the first ordinary or mail train, *Maberly*, p. 88.—The letters are not sorted at Southampton, the Post-office establishment there not being sufficient, *ib.* 88.—Circumstances which warrant the employment of special trains, *ib.* 88.

MAILS—CONVEYANCE OF BY RAILWAY:—
The rate of speed at which mails are conveyed by railway in Great Britain and Ireland differs on always every line, *Maberly*, 89.—It varies from 20 to 35 miles an hour, *ib.* 89.—The greatest speed sought to be obtained without incurring the expense of a special mail train, *ib.* 89.—The communication between London and Dublin, London and Dover, and between Glasgow and Liverpool accelerated by means of special mail trains running at a high rate of speed, *ib.* 89.—Certainty and expedition essential to the conveyance of mails, *Quinlivan*, 43.—The speed of express trains not to be taken in calculating the rate at which the mails can be forwarded, *ib.* 114.—For this purpose the rate of the ordinary train upon the particular line must be taken, *ib.* 114.—Plan suggested by which the mails might be considerably accelerated without incurring any serious additional expense, *Hill*, 141.—The intermediate as well as the terminal communications must be considered in arranging for the conveyance of letters, *Maberly*, 142.—An express train would convey the letters quicker between the two extreme points, but the intermediate places would derive no benefit from such an arrangement, *ib.* 142.—The Directors see no reason why the mails between Dublin and London may not be conveyed in 14 hours, including stoppages, *Chester and Holyhead Railway Company*, 55.—They are not aware of any plans for accelerating the mails, *ib.* 55.—The ordinary trains used for the conveyance of mails, *Hill*, 139.—Express trains for the conveyance of mails would be much more expensive, *ib.* 139.—Thinks that doubling the speed, if that were practicable, would conduce more to increase the number of letters sent than increasing the number of departures, *ib.* 139.—Mail trains average a speed of 25 miles an hour, including stoppages, *ib.* 139.—The Postmaster-General not entitled to insist upon more than 27 miles an hour unless there are faster trains upon the same railway, *ib.* 139.—Mails are carried swiftest on the Dover line, about 35 miles an hour, *ib.* 140.

MAIL STEAM PACKETS (*See* British and North American Royal Mail Steam Packets, and United States Mail Steam Packets).

Maxwell, George, Chapman, Henry Cleaver, and Duncan, George James, Esqs., forming a deputation from the American Chamber of Commerce at Liverpool.—(Analysis of their Evidence):—*Mr. Maxwell*:—Attends as one of the deputation from the American Chamber of Commerce at Liverpool, 216.—This Chamber has memorialized the Commissioners on the importance of allowing the North American steamers to continue their departure from Liverpool as heretofore, *ib.*—They consider this essential to the interests of Liverpool and of the manufacturing districts of Lancashire and Yorkshire, *ib.*—The packet arrangement has worked so well that a change is considered very undesirable, *ib.*—The American correspondence almost entirely centres in Liverpool and the country behind it, *ib.*—The removal of the British packets would materially benefit the rival line of American packets, *ib.*—On

Maxwell, George, &c.—continued.
the value of the goods trade with America now sent by the steam vessels, *ib.*—Description and value of the articles exported, *ib.*—Freight per ton charged on these expensive goods, *ib.*—Advantages of the existing post office arrangements at Liverpool, *ib.*—These advantages would be lost by the transfer to Ireland, *ib.*

Mr. Chapman:—Considers this question in a national point of view, 216.—Liverpool the centre of a large trade carried on by steam communication between England, Scotland, and Ireland, *ib.*—The removal of the Packet Station from Liverpool would drive all this trade into the hands of Collins's rival line of packets, *ib.*—The trade could not be carried on if these goods were sent through Ireland, *ib.*—The expense of transhipment would operate as a bounty in favour of the American packets, *ib.*—The expense of steam navigation to America so great that either a monopoly or a protection society necessary to make it remunerative, *ib.*—The Americans themselves treat this question as a national one, and appeal for additional protection to enable them to keep up the line of packets, 217.—The removal of the Packet Station to Ireland would entail an enormous loss upon the Company, which the Government must make good, and the passenger and goods traffic would be wholly lost and diverted to the rival line, *ib.*—Injurious effect of the proposed change upon the steam vessels now employed, *ib.*—Size of graving-docks and extent of accommodation afforded at Liverpool for the large American steamers, *ib.*—This afforded at vast expense, and solely for the Packet Service, *ib.*—These graving-docks useless for sailing-vessels on account of their width, *ib.*—Does not think repairs could be done either at Holyhead or Galway, *ib.*—Cunard's vessels are built at Glasgow, but are all repaired at Liverpool, *ib.*—If new engines were wanted, they would be sent to Glasgow, but this would not be necessary when the Huskisson dock is finished, *ib.*

Mr Maxwell:—The passage to America is made quicker from Liverpool than from Southampton, 217.—Does not think there would be any saving of time by starting from Ireland instead of Liverpool, allowing for the time lost by transhipment, *ib.*—Doubts much whether 12 hours could be saved, *ib.*—The people living in the manufacturing districts mostly interested in this question, and they would lose by the proposed change, *ib.*—The removal of the British packets from Liverpool would be hailed with delight in America, *ib.*—The facilities at Liverpool for embarking passengers and luggage described, 218.—The inconvenience which would be sustained by removing the port of embarkation to a more distant part of the empire considered, *ib.*

Mr. Chapman:—Describes the arrangements made for taking out mails and passengers at half-ebb tide, 218.—Opinion in favour of the existing system; considers that there is no service more admirably conducted, *ib.*—Does not think it could be better done in Her Majesty's service, *ib.*

Mr. Maxwell:—Thinks any addition to the present cost of freight would be a very heavy bar on the goods, 218.

Mr. Chapman:—Transhipment always attended with inconvenience and delays, 218.—With Galway for the Packet Station, Belfast goods would be sent by steam to Dublin, and thence by railway to Galway, *ib.*—Does not think the Commissioners can recommend so great a change for the sake of so small a portion of the American trade as the Belfast trade, *ib.*

Mr Maxwell:—On the times of starting of the Cunard steamers, 218.

Mr. Chapman:—Evidence relative to the value of the cotton trade which exclusively centres in Liverpool, 218.—The importance of this trade nationally considered, *ib.*

Mr. Maxwell:—The value and importance of the electric telegraph dependent upon the presence of an agent on the spot to forward it, 218.

Mr. Chapman:—Further evidence on the use of the electric telegraph in commercial matters, 218.—Details at length his objections to the removal of the Packet Station, and restates the various inconveniences, delays, and expenses attending the transfer, *ib.*—Thinks the official delays in sorting and delivery of letters would fully equal the gain of six hours assumed to be gained, 219.

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Maxwell, George, &c.—continued.

Mr. Maxwell:—Is assured that no merchant from Liverpool proceeding to America with his family would go to Holyhead much less Galway while he could get on board at Liverpool at once, 219.—People would never endure half a dozen changes in the passage to America, *ib.*—As a matter of encouragement to British tonnage, should view this question in a national point of view, *ib.*

Mr. Chapman and Mr. Maxwell:—Both concur in the opinion that the change, as regards postal arrangements, might benefit a little at the expense of the rest in England and Scotland, 219.—If the letters are forwarded by express, a saving of time might be produced, but this not always possible, *ib.*—The Irish correspondence with America, commercially considered, very trifling, *ib.*—The Irish letters relating to emigration very numerous, *ib.*

Mr. Chapman:—Evidence relative to the amount of remittance from emigrants to their friends in Ireland, 219.—Superior class of persons now emigrate from Ireland to America, the better order of small tenant farmers, and persons of that description, *ib.*—The preference shown for Liverpool as the port of embarkation of emigrants from Ireland caused by the greater facilities for getting shipping, &c., *ib.*—The passage from Ireland to Liverpool varies from 2*s.* 6*d* to 1*s.* each person, *ib.*—Bad treatment of emigrants at Liverpool by crimps and lodging-house people, *ib.*

Mr. Maxwell:—Considers the electric telegraph very generally useful in commercial matters, 220.

Mr. Chapman:—At the exchange room at Liverpool mercantile articles are telegraphed down and posted in the room at the expense of the subscribers, 220.—Danger of relying implicitly upon telegraphic intelligence, *ib.*—Its liability to abuse, *ib.*—The Holyhead telegraph not used for commercial purposes; it is kept up at the expense of the dock estate, to report the arrival of ships on the coast, *ib.*—Doubts whether the advantages counterbalance the abuses, which no precautions can prevent, *ib.*

Mr. Maxwell:—Thinks the electric telegraph not sufficiently to be depended upon for commercial purposes, 220.—Summary of the advantages and disadvantages of the general question of the transfer of the Packet Station, *ib.*—Upon the whole, the advantages of the existing arrangements are so great that witness deprecates any change in the system, *ib.*

Mr. Duncan:—The inquiry on the proposed change not generally known, and on this account not so much opposed, 220.—The removal of the Packet Station not believed to be seriously entertained by the merchants and traders of Liverpool, and the manufacturing districts, *ib.*

Mr. Maxwell and *Mr. Chapman*:—On the benefits the proposed change would confer upon Collins's line, 221.

Mr. Duncan:—On the value felt by mercantile men of obtaining the latest intelligence, 221.

Mr Chapman:—The removal of the packets, even to Southampton or Falmouth, would be fatal to that steam supremacy now enjoyed by the British Company, 221.

Midland Great Western Railway of Ireland:—The charges of this railway to Galway for passengers will not exceed 2*d.* per mile for 1st class, 1½*d.* per mile for 2nd class, and 1*d.* per mile for 3rd class, *Beausire*, 237.—The charges for goods will average about 1½*d.* per ton per mile, *ib.* 237.—This Company have power to extend their line down to the Dublin quays alongside the discharging berths of the steamers, *ib.* 237.—Arrangements are now in progress with the steam-packet and English railway companies, to have fixed rates to Galway from London, Liverpool, and other principal towns in Great Britain, *ib.* 237.—This principle designed to be extended ultimately to New York and Boston, *ib.* 237.

Milford Haven:—A transatlantic steamer would have no difficulty in making this port under any circumstances, *Durham*, 148.—It is the most accessible port with which witness is acquainted, *ib.* 148.—Would run for it without hesitation in all weathers, day or night, or at all hours of tide, as far as abreast of the town of Milford, *ib.* 148.—In half the number of home voyages the vessel would run direct into Milford haven without slackening her speed until she came within sight of shore, *Brunel*, 151.—From this circumstance, in connexion with the difficulties of approach to any of the ports on the west coast of Ireland, a vessel would make Milford haven as soon as any of those ports, particularly when high speed is attained, *ib* 151.—Cannot admit, under any circumstances, that the difference of the voyage between Milford and the west of Ireland could exceed three hours, but believes the average would be the other way, *ib.* 151.—Thinks packets from Milford for North America would suit the public convenience and compete with the Liverpool packets, *ib.* 152.—They might not carry either so much freight or so many passengers as those from Liverpool, but they would command full freight, *ib.* 152.—South Wales and the Midland Counties export to North America, and these would be in direct communication with Milford, *ib.* 152.—Passengers, especially those from London to the south of England, would prefer Milford to Liverpool as the port of departure, *ib.* 152.—Goods from the north of England would be more economically shipped from Liverpool, but there would be a good freight for the packet from Milford from other places, *ib.* 152.—The railway from Haverfordwest, within eight or nine miles of Milford, is now being constructed, and the plans and sections are all ready for extending it to Milford in the present year, *ib.* 150.—Milford is in close communication with iron and coal districts, *ib.* 151.—The largest iron-works in the kingdom are at Merthyr, where they manufacture chain cables, and at Neath Abbey steam-boat engines are made in considerable number, *ib.* 151.—Milford well situated in respect of docks; Pembroke yard, close by, the only graving dock large enough for the Great Western, *ib.* 151.—If Milford were made a packet station, some extensive works would be necessary, *ib.* 152.

Monteagle, the Right Hon. Lord, with Deputation from Ireland (Analysis of his Evidence):—Is one of a deputation on the subject of the establishment of a western transatlantic packet station, 108.—Witness assumes that the question of a Packet Station in Ireland has already been cancelled on account of the numerous and weighty authorities in favour of such a course, and that the selection of the particular port in Ireland for this purpose has now to be decided, *ib.*—Former opinion in favour of an Irish Packet Station now greatly strengthened since the introduction of railways, 109.—Opinion of the Duke of Wellington and other high military authorities, relative to the best route for the transmission of troops through Ireland, *ib.*—Effect of introduction of railways upon the trade of Belfast and north of Ireland, *ib.*—Anxiety of the citizens of the United States, and of the North American colonists, for increased rapidity of communication between England and America, *ib.*—Increased facilities for more rapid communication afforded by railways completed and in course of construction in Nova Scotia, Canada, and United States, *ib.*—Refers the Commissioners for information in respect of particular ports and localities to the Admiralty Reports, and to the Reports on Irish Railways, 109-110.—Witness will then be prepared to show the extension of railroads since the date of those Reports, and any other alteration which subsequent works may have made in the statistics of the country, 109.—Urges upon the consideration of the Commissioners the expediency, with a view to the saving of time, of deciding upon the general question of an Irish Packet Station before taking evidence relative to the advantage of particular ports, 110.

The Chairman:—Adverted to the steps already taken by the Commissioners to obtain evidence on the subject of this inquiry, and stated that it was their intention to divide the subject into two heads, first to institute a comparison of the ports generally on the west coast of Ireland with Liverpool and Holyhead, as ports of embarkation for the Atlantic, with reference to the public convenience and general interests of the empire; and, secondly, to examine more minutely the respective advantages of particular harbours, *ib.*

Rev. P. Daly:—The Commissioners have evidence showing the bearing of the question upon the mercantile interest of Ireland, and especially regarding Belfast, *ib.*—The whole of the north of

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Monteagle, Lord—continued.
Ireland now so alive to the importance of this matter that they declare that their trade cannot possibly be carried on prosperously, in competition with other parts, unless the Transatlantic Packet Station be transferred to Ireland, *ib.*—The mercantile interest of Belfast under vast disadvantages from the want of direct communication with America, independently of the question of quick communication, *ib.*—Description of the present circuitous and expensive mode of conducting the Belfast trade, and the probable improved and economical arrangements which would be made by having the power to embark their goods for America direct from an Irish port, *ib.*—Belfast trade chiefly consists of the manufacture of muslins and linens, which are largely exported to America, *ib.*—These articles largely purchased in Switzerland, Belgium, France, and Germany, for exportation to America, which under improved arrangements in respect of transit would be, for the most part, purchased in Ireland, 111.—Expects also great benefit to Ireland from an extension of personal intercourse between the Americans and Irish, *ib.*—Acceleration of intelligence an important advantage which would be obtained by the establishment of an Irish Packet Station, *ib.*—Intelligence which is now transmitted in 10 or 12 days from America to London might, *via* Galway, be sent in 7 days, *ib.*—The passage between Galway and America might be still further lessened by the construction of improved vessels to run at higher rates of speed than the present packets, *ib.*—Further evidence relative to the advantage to the Belfast trade, by making Galway a Packet Station, *ib.*—Opinion of Joseph M'Gill, the head of a very large house, on this subject, *ib.*

Mr. F. French:—Considers it of great importance to show the enormous destruction of British property which takes place in the ships passing through the channel every year, and the great advantage to the nation on this account, from having a port of departure on the western coast of Ireland, *ib.*

Lord Monteagle.—Again reverts to the importance of this inquiry in connexion with the military communications of the country, 112.—The establishment of a rapid communication between England and the British North American colonies, in relation to the modes of relief of troops, a matter of very great practical importance, *ib.*—The rapid communication of letters, however, after all, the primary question to be looked at, *ib.*—As respects postal communication, a case might be triumphantly made out in favour of Ireland, but admits that heavy goods might be sent with greater advantage from Liverpool, *ib.*—But light and valuable goods might be profitably sent from Ireland, *ib.*

Mr. McCullagh.—The traffic between the continent of Europe and America also worthy of consideration, 112.—There is a considerable traffic from Havre; and if the shortest marine route is established, and steam-packets were run from the westernmost point, a great number of persons would prefer, both for commercial purposes and for purposes of pleasure, to go *via* Galway or *via* Cork, rather than go to Liverpool or from Liverpool, *ib.*—This opinion the result of communications with French gentlemen, who have urged it strongly, *ib.*—When they can cross to Dover in a couple of hours, and from Holyhead to Dublin in three and a half, and have the advantage of going through the country, and the comfort of a much less continuous voyage, they will prefer the new route, *ib.*

Rev. P. Daly.—The advantages of an Irish port considered in reference to the West India line of packets, 112.—The Americans very desirous for the speediest transmission of intelligence, *ib.*—They are prepared to go to a great expense to insure the speediest communication with the Western States, by means of the electric telegraph, with reference to their bread stuffs, *ib.*—Mr. Unacke, the Solicitor-General of Nova Scotia, attaches great importance to the establishment of an Irish Packet Station, *ib.*

Lord Monteagle:—The evidence of Mr. Pinday, the Government Agent in New Brunswick, shows the prevalence of a strong feeling in the United States and British North American colonies in favour of an American Packet Station, 112.

The Chairman;—Stated, for the guidance of the witnesses, the course of evidence proposed to be taken, 114.—The question of time considered most important, *ib.*—Eleven knots an hour assumed as the average speed by Cunard's packets, and 30 miles an hour by railway, and allowing 6 hours for crossing between Holyhead and Kingstown, *ib.*—Upon this calculation, the Commissioners estimate the gain of time by substituting Galway for Holyhead, at 9 hours and 10 minutes, *ib.*

Rev. P. Daly:—Disputes the accuracy of this calculation, thinks the rate of the fastest trains ought to be taken, and not that of ordinary trains, 114.—50 miles an hour has been obtained on the Galway railway, *ib.*—The improved steam-vessels projected by Mr. Penn will run 17 nautical miles an hour, while the estimate of the Commission is only 11, which would reduce the voyage to Halifax to 5½ days, 115.—Mr. Penn also of opinion that no vessel could be constructed to run 17 miles an hour between Holyhead and Halifax, *ib.*

Mr. Howe.—Evidence relative to certain projected improvements in Nova Scotia and New Brunswick, 116.—Effect of these works upon the question of communication between Great Britain and America confirms the evidence of previous witnesses as to the great anxiety manifested by great numbers of persons in the United States and British North American provinces for acceleration of transmission of intelligence, *ib.*—Importance of the electric telegraph in America, *ib.*—The control of the telegraph not allowed to pass into the hands of foreigners, *ib.*—Witness will undertake to form an European American Company, to transmit letters and intelligence between the two countries, provided the bounty of 140,000*l.* is withdrawn, 117.—All letters would invariably be sent by the quickest route, *ib.*—The importance of a short sea passage between England and America considered in reference to emigration and colonization, *ib.*

Mr. Green:—The electric telegraph in America the chief means of communication, 118.—It pays handsome salaries to the persons employed; pays all its expenses, and yields to the Government 10 per cent, while in England it does not answer at all in a pecuniary point of view, *ib.*—The penny postage in England a great competitor with the telegraph in the transmission of ordinary intelligence, *ib.*—The rise or fall of the great staples a subject of so much importance to mercantile men that steam communication would follow immediately upon the laying down the wires, *ib.*

Mr. McCullagh:—The value of the electric telegraph only seen when applied to long distances; for a short distance, it is almost nothing, 118.—The difference in the working of the electric telegraph between England and America depends very much upon the great difference of distances, the difference between Liverpool and Birmingham by post and by electric telegraph is almost worthless, being less than a quarter of a day, *ib.*—Between England and America it would make the difference of a day, *ib.*

MONTEAGLE, THE RIGHT HON. THE LORD, *and others forming a Deputation from Ireland* (Second examination):—

Lord Monteagle desires to call attention to the difference between the earlier documentary evidence taken by the Commissioners compared with existing facts; and also to the progress of the Great Halifax and Quebec Railway, and its importance in connexion with the establishment of a Packet Station on the west of Ireland, 187.—The Great Halifax and Quebec Railway guaranteed by Government, *ib.*—Statement of railways in North America projected, in progress, and completed, *ib.*—The electric telegraph already in operation between Halifax and Quebec, and the territory of the United States, south and south-west of Halifax, *ib.*—Importance of railway and telegraphic communication in connexion with emigration, *ib.*—Thinks Irish packets would take more emigrants to the British territories in North America, and fewer to the United States than the existing packets, *ib.*—Out of 480,115 emigrants to North America, in the last two years, 407,683 went to the United States, *ib.*—Nine-tenths of the entire emigration to North America are Irish emigration, *ib.*—Importance of a western or south-western Packet Station in reference to the military service, *ib.*—Refers to the evidence taken before the Revenue Inquiry Commission, 1834-5, and to the report of

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Monteagle, Lord—continued.
the Committee of the House of Lords in 1836, in confirmation of the importance attached to this question, *ib.*—Lord Liverpool of opinion that, sooner or later, a western harbour must be the point of departure, 188.—Opinion of the Duke of Wellington, and other high authorities, on the desirableness of a western station, *ib.*—Admiral Beaufort thinks the advantages in time of war would be incalculable, and that even in time of peace the benefit would be great with the regular reliefs, *ib.*—These advantages detailed, *ib.*—Importance of securing the speediest transmission of intelligence, 189.—When witness was at the Colonial Office, despatches of the greatest importance, and requiring the greatest secrecy, were occasionally sent to British North America *via* New York; the route through a foreign country with all the risks being preferred for expedition's sake, to the more circuitous route through the British territories, *ib.*—The completion of the great line of water communication by the St. Lawrence and lake canals an additional motive for improving the postal communication with British North America, *ib.*—The extent of country opened by the extension of water communication in Canada, *ib.*—The question of the necessity for an Irish Packet Station not to be decided by the number of English letters only; but the number of foreign letters which would be sent by this route must be taken into consideration, *ib.*—Thinks an Irish western port would carry off all the letters from the north of Europe and from Havre, and every port in the channel, *ib.*—1,090,000*l.* estimated as the expense of emigration by private parties to North America in 1850, including provisions, the cost of conveyance to the port of embarkation, and maintenance there, 190.—Of this amount 460,000*l.* was remitted from America, almost exclusively to Ireland, *ib.*—These remittances largely increasing, *ib.*—They have increased from 460,000*l.* to 950,000*l.*, *ib.*—The attention of the citizens of the United States now directed to the question of an Irish Packet Station, *ib.*—Its desirableness admitted as a means of facilitating the communications between the two countries, *ib.*—Extract from Report of the Irish Railway Commissioners on this subject, *ib.*

Admiral Robinson:—Correcting some of the statements made in his previous evidence, and adverting to some of the objections made against Galway, and denying their sufficiency, 191.—The objection to its being a lee shore may be overcome by ordinary skill and ability, *ib.*—The sea breaking in 12 fathoms wholly unimportant, beyond wetting a ship's decks, *ib.*—The difficulty respecting the latitude altogether unreal, *ib.*—Ordinary state of the weather in the winter months on the west coast of Ireland, *ib.*—Is certain, from an experience of 25 years, that two days, or even 24 hours, very rarely elapse without an opportunity of obtaining the latitude, *ib.*—In reply to the alleged difficulty of rounding-to to sound, states that soundings may always be obtained by the sounding-machine in any moderate depth of water without rounding to, *ib.*—The anchorage within Mutton Island, although susceptible of great improvement, affords, in its present state, sufficient shelter in 25 feet at low water, *ib.*

Mr. Mulvany:—Explanatory of his former evidence relative to the works required at Galway, 191.—Cannot quite agree with Admiral Robinson's opinion, that passengers can be landed in all weathers in boats; a small steamer, however, would suffice for this service, *ib.*—A small steamer could get under the lee of the larger packet, and lie alongside at all times except during a complete gale, 192.—The staging works referred to in witness's former evidence, on the causeway at Mutton Island, would be preliminary to the permanent works, but could be used for several years for landing passengers and goods, until the completion of the great works, *ib.*—The cost of these preliminary works would be from 10,000*l.* to 15,000*l.*, *ib.*

Lord Monteagle:—Calls attention to the reports and parliamentary documents on the advantages of the Shannon for a Packet Station, 192.—Reads extracts from Eleventh Report of Shannon Navigation Commissioners, describing the Shannon, and from Mr. Bald's evidence before the Lord's Committee, of 1836, on this subject, *ib.*—Quotes Captain Mudge, R.N. Admiralty Surveyor, Col. Burgoyne, the Report of the Shannon Commissioners, of 1837 (cites the names of these Commissioners, showing the value of their opinions) and Captain Washington's Report on Tidal Harbours, on the Advantages of Foynes Harbour, and the last Report of the Shannon Commissioners, to show the works and improvements carried out up to the present time, 192-93-94.

Admiral Robinson:—Thinks it impossible at Foynes Harbour to run in on a dark night when blowing hard, and pick up a mooring-buoy to secure a large steamer, 194.

Mr. Randall:—Does not think the darkness of the night would at all interfere with it, because signal lanterns are used, 194.

Mr. Mulvany:—No wind at Foynes can affect the harbour; the rapid tide is the difficulty, 194.

Mr. Randall:—Tarbert has the advantage of Foynes in being a larger harbour and nearer the sea, but it is a good deal exposed eastward, and the cost of making a harbour there would be very considerable, 194.—Limerick is altogether too high up the river for the packet service, except for the repairs of the vessels, *ib.*—At Tarbert, vessels are frequently unable to remain at the anchorage, *ib.*—Opinion as to the safety of the west coast of Ireland, *ib.*—Would prefer it to any other part of the coast of the United Kingdom, *ib.*—The preference given with reference to the proposed arrangements for a Packet Station, *ib.*—Statement of witness's services at sea, 195.—Soundings do not extend far off the west coast, *ib.*—Off the Shannon they do not run more than 15 miles, at least, those to be depended upon, *ib.*—Courses witness would take in making the Shannon and the Arran Islands, *ib.*—The coast between the Blaskets and the Arran Isles not subject to fog, *ib.*—Fog more prevalent as land is approached, *ib.*—Accidents off the Shannon very rare, these being chiefly from vessels driven upon the coast from insufficient knowledge of it, 196.—Thinks they are not more than 1 in 50 in proportion to the traffic compared with the accidents in the Channel, *ib.*—State of the Shannon in particular winds blowing hard, *ib.*—Does not see anything to prevent vessels running up to Foynes at all times, *ib.*—From the Beeves up to Limerick the water is shallow and the navigation difficult from masses of rock and stone, *ib.*—The passage of a large steamer from Beal Castle, the commencement of the shallow water, up to Limerick would be made in an hour, *ib.*—From three-quarters ebb to three-quarters flood, there would be water for a vessel drawing 19½ feet water, *ib.*—Description of the lights in the Shannon, 197.—Foynes could be made a Packet Station without any great expense, *ib.*—The Skellig Light would prove useful in making any of the western ports from America, *ib.* If running for Galway, would prefer either the Blaskets or the Brandon, *ib.*—The Skelligs the nearest point of land to Halifax, and then the Blaskets, *ib.*—The westernmost of the Blaskets would be the best for a light, *ib.*—If Foynes were selected as the transatlantic harbour, the Ballast Board would put up the necessary lights, *ib.*

Monteagle, The Right Honourable Lord (Third Examination):—Further evidence relative to Foynes Harbour, 214.—Statement in explanation of Capt. Randall's evidence, *ib.*—On the force of the currents in the Shannon, *ib.*—Effect of the works in the Shannon upon the navigation, *ib.*—Evidence relative to the amount of remittances from emigrants in North America to their friends in this country, 215.—These remittances almost entirely sent to Ireland and to Irish persons in England, *ib.*—Near two millions of money said to have been remitted during the last three years, *ib.*—Liverpool selected as the port of embarkation, from the greater facilities of getting vessels, &c., *ib.*—Evidence on the direct trade between Dublin, Belfast, and Cork, with America, *ib.*—Emigrants have been occasionally taken from Liverpool to America as low as 50*s.* a head with the ordinary food, *ib.*—Statement of the expenses, delays, and inconvenience experienced by emigrants from Ireland embarking from any of the Irish ports, *ib.*—Condition of emigrants upon embarking, *ib.*—They appear much worse off than they really are, *ib.*—Evidence of Mr. Miley, a shipping agent, of Eden Quay, Dublin, in confirmation of this opinion, *ib.*—The condition of the emigrants in a vessel fitted out by Lord Palmerston represented as a scandal to the

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Montcagle, Lord—continued.
proprietor and country from whence they were sent, *ib.*—These people had 1,500 sovereigns amongst them, and each of them new clothes, given at Lord Palmerston's expense, but they went on board in rags, to save them, *ib.*—Thinks it quite possible to combine first-class cabin passengers and emigrant passengers in the same ship, 216.—Such an arrangement already exists in Australian ships, *ib.*—In coming from Cork or Waterford to England there are always great numbers of steerage passengers on board the same packets with the first-class passengers, *ib.*

Moore, John Bramley, Esq. (Analysis of his Evidence):—Attends on behalf of the corporation of Liverpool, 208.—Thinks the removal of the transatlantic Packet Station from Liverpool very undesirable, *ib.*—Liverpool the capital of all American commerce, *ib.*—It is the centre of passenger traffic, merchandize, and correspondence, *ib.*—The removal of the Packet Station would entail inconvenience, loss of time, and additional expense, *ib.*—The Packet Company would be put to considerable additional expense, *ib.*—The removal of the station even to Holyhead would be injurious, 209.—The cost for freight would be increased by the cost of the increased length of the land journey, *ib.*—It would also have the effect of throwing the carrying trade entirely into the hands of the American steam-vessels; they would have the command of the whole of the carrying trade, being nearer to the seats of the manufacture than the Cunard vessels, *ib.*—The removal of the station to a western port in Ireland would cause far greater inconvenience than the removal to Holyhead, *ib.*—No passengers would go from England to Galway if they could get on board the packet at Liverpool, *ib.*—Statement of the delays, expenses, and inconveniences resulting from transhipment, *ib.*—Liverpool being the centre of American commerce, necessarily the resort of all Americans connected with trade, *ib.*—The American business at Liverpool estimated at fifteen or twenty millions sterling per annum, *ib.*—The correspondence between America and Ireland not commercial, and unimportant, *ib.*—This correspondence chiefly between emigrants, and relating to emigration, *ib.*—The trade between Belfast and America very small compared with that of Liverpool, *ib.*—It is chiefly carried on *via* Liverpool, *ib.*—Thinks it would take longer time to go from Liverpool to New York *via* Galway than from Liverpool by sea all the way, *ib.*—The voyage from Liverpool to Galway by sea can be made in 24 hours, it could not be done on land unless the various conveyances are all made to fit the time of arrival and departure throughout, *ib.*—Even with such perfect arrangements, a delay must take place, by arriving at night, &c., or a few hours before the sailing of the packet, *ib.*—At Liverpool great facilities are afforded for embarkation of passengers and goods up to the last moment and at any time of tide, 210.—Thinks it would be difficult to make the conveyance of the letters fit in where so many different conveyances would be wanted, *ib.*—It is much easier to do so with correspondence than with passengers, *ib.*—The correspondence of Liverpool and Manchester with America would be delayed by the removal of the station to Holyhead, *ib.*—Letters which are now posted up to within half an hour of the departure of the packet would have to be posted the night before, *ib.*—If Galway were the port selected, it would be impossible to convey from 80 to 120 passengers with such rapidity as the mails, *ib.*—Passengers, who are usually desirous of embarking at the last moment, would prefer to embark at Liverpool on this account, as well as on account of avoiding the inconvenience of transhipment, *ib.*—Attaches no importance to any increase or decrease in the insurance on going from Ireland, no difficulty could arise on this head, *ib.*—The cost of conveyance of goods would be increased by lengthening the land journey, *ib.*—The cost, both for passengers and goods, is greater on railways than by steam-packets, *ib.*—The London letters would neither be benefited nor injured by the transfer to Galway, *ib.*—The inconvenience arising from Liverpool being a tidal harbour only occasionally felt as regards the arrival or departure of the packets, 211.—It is not felt at any time to any great extent, *ib.*—The difficulty, such as it is, can easily be got over by means of a tender, *ib.*—The cost to Government for conveyance of the mails would be greatly increased by transferring the station from Liverpool to Galway, *ib.*—The removal of a large portion of the carrying trade must necessarily increase the cost of conveyance of the mails, *ib.*—The steamers could not take out emigrants at low prices, except at the risk of losing their first-class passengers, *ib.*—Witness would not go out in a vessel which had 200 or 300 emigrants on board; thinks no first-class passengers would, *ib.*—Emigrant vessels, fitted especially for the purpose, alone suitable, *ib.*—The poorer emigrants treated like live merchandize, *ib.*—The object of this inquiry not generally known to the members of the Chambers of Commerce of Liverpool or Glasgow, *ib.*—Quantity and description of luggage taken out by emigrants, 212.—Bad treatment of emigrants at Liverpool, *ib.*—Attempts made by the authorities of Liverpool for their protection, *ib.*—Opposition of interested parties—low lodging-house keepers, and others, to these attempts, *ib.*—Reason for so many emigrants from Ireland embarking at Liverpool, *ib.*—Trifling cost of their passage from Ireland less, generally, than the cost of their transit from one place in Ireland to another, *ib.*—The emigration from Liverpool includes persons from Scotland and Wales, and also from the continent, as well as from Ireland, *ib.*—The certainty of getting a vessel immediately on their arrival the cause of so many coming to Liverpool for embarkation, *ib.*—Thinks if the removal of the Packet Station to Ireland were much desired in America that they would run their own steamers on that line if they supposed it a profitable speculation, *ib.*—The quickest conveyance always preferred for the conveyance of letters, regardless of cost, 213.—Anticipates considerable advantages from the use of the electric telegraph for commercial purposes, *ib.*—On the uses of the electric telegraph between Liverpool and London, *ib.*—Several hours would be gained by its establishment between London and Liverpool and west of Ireland, *ib.*—Doubts whether the community at large would be greatly benefited by this means of communication, *ib.*—Its liability to abuse in certain cases, *ib.*—Priority of intelligence used injuriously, *ib.*—In the cotton market a fortune might sometimes be made by an hour's advantage, *ib.*—London only partially connected with the American trade; the real business is done at Liverpool chiefly by cotton manufacturers and spinners, *ib.*—Observations upon Mr. Kennedy's evidence relative to the injurious effect upon the Belfast trade from the Packet Station being retained at Liverpool, *ib.*—Denies the injurious effect supposed by Mr. Kennedy, *ib.*—Denies that by the existing packet arrangements at Liverpool Belfast is excluded from advantages possessed by the manufacturers of England and Scotland, 214.—If the Irish trade were of importance sufficient to maintain a line of packets from Ireland they would have one; but it is not even extensive enough to maintain a line of sailing vessels to carry out their goods, *ib.*—Glasgow has a greater direct trade with America than Belfast, *ib.*—The removal of Cunard's vessels to Ireland would benefit the American packets, which would continue Liverpool as their station, and so monopolize the whole of trade now carried on under the British flag, *ib.*

Moore, J. B., Esq.—continued.

Mulvany, William T. Esq. (Analysis of his Evidence):—Is Commissioner of Public Works in Ireland since 1842. Has been Commissioner of Drainage, Fisheries, &c., 179.—Is well acquainted with the whole of Ireland, *ib.*—Disclaims all connexion with local interests, *ib.*—Has been engaged all his life in engineering operations and great public works, *ib.*—Does not consider Galway at present fit for a Packet Station, *ib.*—It is the best suited for the purpose, but certain works are necessary to make it fit for a Packet Station, *ib.*—These works are, a mole from the shore to Mutton Island, and a pier projecting into five fathoms water, with a landing jetty inside the pier for a wharf for the packets, and an extension from the railway terminus in Galway to the pier, *ib.*—Connecting the railway with the pier difficult, but not an insuperable difficulty, *ib.*—It would cross the river, but at a place where masted vessels at present seldom go, *ib.*—The length of the railway pier extension about 8,900 feet, 180.—Mr. Roberts estimated the cost of the pier, breakwater, and jetty at 110,500*l.*, *ib.*—This includes a landing quay, 500 feet long, for the packets, *ib.*—Mr. Forsyth has estimated the same works, but upon a more extensive scale, at 134,059*l.*, *ib.*—Per-

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Mulvany, W. T., Esq.—continued.
ticulars of the works included in this sum, *ib.*—Explanations of the variations between the two estimates. *ib.*—Witness of opinion that 130,000*l.* would suffice to construct a mole from the shore to Mutton Island, and extend it into deep water to shelter the roadstead with a landing jetty at right angles for vessels to land and discharge their cargoes, *ib.*—The vicinity affords great facilities for the completion of these works, ashlar stone and limestone being in great abundance, *ib.*—A lighthouse should be put at the end of the proposed pier, which, with one on Hare Island, would enable a vessel under any circumstances to enter the fair way between the Black Rock and Santa Margherita, *ib.*—Is decidedly of opinion that Galway is the best port in Ireland for a Packet Station, *ib.*—The choice was between Galway and the Shannon, 181.—The Shannon in every respect the next best to Galway, *ib.*—Is well acquainted with the Shannon; has surveyed every harbour and port in it, the soundings and surveys having been made under witness's own direction, *ib.*—Should prefer the Shannon if it were equal with Galway in other respects for the packet service, *ib.*—Objects to the long estuary and to the great force of the tidal influence in the Shannon, *ib.*—At Tarbert the rate is five feet per second at half ebb, or near three knots an hour, *ib.*—This no impediment to large steamers, but it would make them more difficult to manage in the narrow places from their deep draught offering so large a section to the force of the current, *ib.*—The width of the channel at Foynes at the narrowest part not more than twice the length of one of the large steamers, *ib.*—Description of pier in course of construction at Foynes, *ib.*—Tarbert the best available port in the Shannon, from being nearer its mouth and from its position on the south side of the river, *ib.*—Tarbert has good holding-ground, but much shallow water, *ib.*—It is fit only for the arrival and departure of the packets, being without a town or convenience for a station, *ib.*—Any interference with the tidal operations at Tarbert would destroy the harbour, *ib.*—Any erection into the river should be entirely open, and of wood or iron, *ib.*—Foynes is naturally well sheltered, and inside there is deep water. The eastern end is too shoal for large vessels, *ib.*—The cost of the necessary works at Foynes would be much less than at either Galway or Tarbert, *ib.*—Repairs to the vessels could be done at Galway and Limerick, but at Foynes or Tarbert establishments would have to be created for this purpose, 182.—Probable arrangements which could be made for the repair of vessels and machinery, *ib.*—Heavy repairs must be done at the establishment where the vessel was built, *ib.*—Objects to a port of call; thinks the steamers should take their final departure from the port whence they start, *ib.*—The maximum of advantages in favour of such a course, *ib.*—A port of call would increase the risk and cause delay, without affording commensurate advantages, *ib.*—Fog rarely occurs in open bays on the west coast of Ireland, *ib.*—The estuaries are more liable to fog, but it is very rare in Galway, Belmullet, and Westport Bays, *ib.*—Evidence relative to the tides in the Shannon, *ib.*—The rise of 20 feet at Limerick would enable large steamers to get up at high water, *ib.*—The depth of water outside the pier head at Foynes varies from 40 to 60 feet, *ib.*—A jetty for large steamers to lie alongside could be built out from this pier for a few thousand pounds, *ib.*—A length of 50 or 60 feet would be sufficient, *ib.*—This would not injure the channel, *ib.*—Cork has an advantage over the other ports in the facilities for obtaining coal, *ib.*—The Shannon would be supplied with the Arigna coal, *ib.*—The western ports must depend for their supplies of coal mainly from shipping, 183.—Cost of coal in Galway for ordinary consumption from 23*s.* to 26*s.* a ton, 183.—A contract has recently been taken for the workhouse at 14*s.* or 15*s.* a ton, *ib.*—The cost in Limerick is only 14*s.* a ton, *ib.*—The export trade at Limerick causes this difference in the price of coal compared with Galway, *ib.*—Turf is used instead of coal by the steamers in the Shannon, and factories in the adjoining counties, *ib.*—Coal from South Wales chiefly used on board the transatlantic steamers, *ib.*—It costs about 8*s.* or 9*s.* a ton at the port of shipment, *ib.*—The freight to Ireland varies with the prospect of a return cargo, *ib.*—At Limerick the freight to Wales is 10*s.* a ton, *ib.*—Freight is reduced as the general trade is increased, *ib.*—At the mouth of the Shannon, and even at Valentia, freight from South

Mulvany, W. T, Esq.—continued.
Wales is greater than at Limerick, *ib.*—Thinks travellers generally would prefer going through Ireland to save the Channel voyage, *ib.*—Scheme for altering the docks at Limerick and Galway, so as to admit the American packets, *ib.*—Produces model and explains details of this plan, 184.—The Arigna coal mines not at present worked to any extent; they are only worked for local consumption, *ib.*—It is in contemplation to work them on a more extended scale, *ib.*—Is aware that Mr. Griffith is of opinion that these mines cannot be advantageously worked to any extent, *ib.*—Does not consider it necessary to rely upon local coal when it can be imported into Limerick and Galway at such low prices, *ib.*

Lord Monteagle:—Admits that no reliance can be placed upon any local supply of coal south of the Shannon, *ib.*

Mr. Mulvany:—Corrects his previous evidence relative to the width of the proposed swivel bridge across Lough Athalia, *ib.*—The bar at the entrance of Galway Dock has been nearly all removed, *ib.*—The depth of water the same over the bar as over the sill of the lock, *ib.*—Further particulars relative to the excavation into Lough Athalia, and the swivel bridge over it, *ib.*—By lessening the length of a voyage, steamers of a less draught of water might be constructed; and if Whitehaven or Cape Canso be selected for the transatlantic port, less fuel would be wanted, and a considerable quantity of dead and useless weight got rid of, with perhaps greater speed, *ib.*—The speed of the present packets rather exceeds 11 knots an hour, *ib.*—Shortening the voyage lessens the expenses in many ways, *ib.*—Thinks the goods trade of minor importance compared with increased speed in the conveyance of mails and passengers, *ib.*—The question of expense to Government for the conveyance of the mails depends upon the value of the general trade in passengers and goods, 185.—Thinks the conveyance of emigrants, if the packets started from Ireland, would be remunerative even at very low rates, *ib.*—Advantages to these persons by embarking in a steamer from a port in Ireland, instead of going to Liverpool and proceeding by a sailing vessel, *ib.*—Thinks a steamer fitted out for the conveyance of passengers at low fares from Ireland would pay as well as those carrying goods from Liverpool, *ib.*—The speed of the vessels running between Holyhead and Dublin varies from 13 to 15 miles an hour, *ib.*—Does not think a vessel starting from the western coast of Ireland would be without trade, *ib.*—At present Belfast goods can reach Galway by railway: they will shortly come by water to Athlone, and thence by railway to Galway, *ib.*—These goods now sent to Liverpool for shipment to America, *ib.*—Advantages of a western Packet Station to the Belfast trade, *ib.*—Observations upon the earlier delivery of Irish correspondence by the new route, *ib.*—Suggestions for improving the Post-office arrangements to facilitate this change, *ib.*—The injury to the shipping interests of Great Britain by allowing the Americans to take advantage of the quickest means of communication urged as a motive for making Galway a Packet Station, 186.—The advantages of Galway considered in reference to the facilities of its internal communications, *ib.*—Statement of various lines of railway in Ireland completed, in course of construction, and in contemplation, *ib.*

Murphy, Francis Stack, Esq., with Deputation from Cork (Analysis of his Evidence).—Advocates the adoption of Cork as the port of departure and arrival of the transatlantic steamers, 120.—By such an arrangement Ireland would be greatly benefited in its postal arrangements, and the delivery of letters, even in England, accelerated, *ib.*—The communication between London and Cork could be made in 20 hours, *ib.*—This would accelerate the postal arrangements of Cork, Dublin, Belfast, the south of England, and the south of Scotland, and save six or seven hours compared with the present route by Liverpool, *ib.*—The avoidance of the channel navigation would also form an important feature in the proposed plan in respect of passengers, *ib.*—The transmission of public news would also be much accelerated by means of the electric telegraph, *ib.*—Cork harbour possesses the greatest facilities, and affords every facility for the repair, docking, and general arrangement of steamships, *ib.*—The saving of coal between Liverpool

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Murphy, F. S., Esq.—continued.
and Cork said to be between 500*l.* and 600*l.*, *ib.*—Witness maintains, on behalf of Cork, that by making it the packet station, the interests both of England and Ireland would be promoted, *ib.*—Under the present system, the letters for Cork are not delivered until 48 hours after the steamer has passed the harbour; whereas if Cork were made the station, the correspondence of Dublin, Belfast, and the whole of the south of England, would be considerably expedited, *ib.*

Mr. Shea.—The correspondence of Ireland, from recent returns, said to amount to one-third of the whole of the letters brought by the mail steamers. The proportions are 27 to 73. Thinks that little additional argument can be offered to prove the great commercial and social advantages that would result from the selection of an Irish port as the medium of communication with America, 120.—Evidence relative to the facilities and advantages of Cork for this service, 121.—Statement of the advantages of the harbour, its safety of approach, and extent of accommodation and facilities of internal intercourse, *ib.*—The mails now conveyed by railway between Cork and Dublin in seven hours, *ib.*—The speed after the 1st of May to be increased to 35 miles an hour, *ib.*—The Passage Railway connects Cork with the harbour, *ib.*—The river steamboats running between Queenstown and Cork could take the mails at any time of tide to the railway terminus, assuming that the mail packets came no further than Queenstown, *ib.*—Depth of water at the quays and extent of quay accommodation, *ib.*, 120.—The terminus of the Great Southern and Western Railway about a mile from the river, but it is intended to bring it to the quay, 121.—The Passage Railway could be made continuous at a very trifling expense, *ib.*—At present the traffic would be liable to several transfers. *ib.*

Sir R. Hagan.—Cork, from its situation on the coast, possesses advantages far above other ports in Ireland, and is superior to Liverpool or Holyhead, because the dangers of the channel and of a lee-shore are avoided, 122.—Further particulars relative to the advantages of Cork harbour, *ib.*

Mr. Shea.—Cunard's packets are frequently seen passing Cork harbour in seven days from Halifax, *ib.*

Sir R. Hagan.—They invariably run for Cape Clear, and make it if possible, *ib.*—Size and depth of present dock, *ib.*—Description of proposed dock at Passage to receive the largest steamers, *ib.*—The plan of this dock now before the Admiralty for approval, *ib.*—It will be constructed by private parties from their own resources, *ib.*—It will be made to receive vessels at high water drawing 25 feet, *ib.*—The mail steamer could lie alongside the quay at Passage or Queenstown, *ib.*—At Passage a jetty 15 feet from the pier would suffice, *ib.*—A line-of-battle ship with all her stores could lie here, 123.—Further evidence showing the facilities for constructing a dock capable of receiving vessels of the class of the transatlantic steamers, *ib.*

Sir R. Hagan.—Was on board H.M. 72-gun ship "Belleisle," commanded by the present Rear-Admiral John Toup Nicolas, when she worked from the outer roads to the anchorage off Queenstown; witness assisted also in piloting the French double-banked frigate "Didon" out of Cork harbour. This could only be done in a harbour possessing more than ordinary qualifications, 123.—The harbour is well buoyed, from the entrance to Queenstown. After passing Queenstown there is nothing to buoy. Would not be afraid to go into Cork harbour blindfolded. Never saw a harbour more easy of access. Has been in and out of that harbour 1,600 times; and can say with confidence that it possesses all the qualifications which can be desired for a packet station, *ib.*

North American Railways:—
Generally.—About 18 miles an hour the ordinary rate of travelling on American railways, *Archibald*, 169.—Their express trains go 30 miles an hour, but these only run on a few main lines, *ib.* 169.—The passage of ferries easily accomplished by means of steamers of a peculiar construction in correspondence with the railway trains, *ib.* 168.—Description of railway steam ferry-boat, *ib.* 168.—Detailed description of various lines of railway in course of construction or projected to connect the United States with the British North American provinces, *Robinson*, 322.

Between Halifax and Quebec.—The Queen's Government having agreed to guarantee the Halifax and Quebec Railway, its future execution may be considered as determined, *Monteagle*, 187.—The value and importance of this line would be greatly increased in connexion with a packet station between the west of Ireland and Halifax, *ib.* 274-5.

Between New York and Halifax or Whitehaven.—The European and North American Railway from New York to Halifax or Whitehaven has been completed and opened to Waterville in the State of Maine, a length of 420 miles, and of the remaining 430 miles, the surveys have been made, and other preparations made for its completion, *Daly*, 265.—The British portion to be completed would be 330 miles to Halifax, or 387 to Whitehaven, and the American portion only about 100 miles; the expense estimated at 6,000*l.* sterling per mile, or 2,000,000*l.* to Halifax, and 300,000*l.* more to Whitehaven, *Robinson*, 322.—By this line intelligence by the electric telegraph might be transmitted from New York to Halifax in one hour, and passengers through Boston and St. John's in 40 hours, *Daly*, 267.—By this route to London, *via* Galway, intelligence by electric telegraph might be transmitted in 5 days 4 hours and 52 minutes, *Galway Committee*, 45.—It might be done in 5 days 1½ hours, *Daly*, 266.—For passengers the time would be, from New York to Halifax, 40 hours; from thence to Galway, 5 days; Galway to Dublin, 4 hours; Dublin to Holyhead, 3½ hours; and Holyhead to London, 7 hours; making the passage altogether from New York to London in 7 days 7½ hours, *ib.* 267.—Resolutions passed at a public meeting of the inhabitants of St. John's, New Brunswick, in furtherance of this line, *Burtis*, 277; *Anglin*, 277.

North Channel Passage:—
The advantages of the northern channel have of late been better understood, and will be more used in future, *Trustees of Liverpool Docks*, 208; *Cunard*, 127.—On the outward voyage a vessel from Liverpool would pass the Isle of Man under the lee of Ireland, and get out of soundings into a regular sea before the vessel from Ireland could reach a secure position, *Belcher*, 32.—The prevalent adverse winds which would prolong the passage by Cape Clear would be favourable for the North Channel passage, *Trustees of Liverpool Docks*, 208.—The option of taking either northern or southern passage an advantage which would be lost if the packets started or called at Holyhead or any Irish port, *Cunard*, 127.—The northern passage of great importance, the use of which frequently prevents considerable delay, *ib.* 127.—In a south-west gale, by taking this route, they can run 300 miles, with an off-shore wind and smooth sea, quicker than they could 100 miles the other way, *ib.* 127.—The northern the shortest passage, *ib.* 127—Statement showing the number of northern and southern passages made by Cunard's vessels in 1849 and 1850, *ib.* 127.—Return of the number of the North Channel passages of the British and North American royal mail steamers in 1849 and 1850, *Bevis*, 247.

O'Flaherty, Mr. (For Analysis of his Evidence, see *Daly and O'Flaherty*).

Ocean Steam Navigation Company:—
The New York, Southampton, and Bremen line consists of two paddle steamers, both American, the "Washington" and "Hermann," of 1850 tons and 600 horse power each, *Powell*, 246.—These vessels leave new York and Southampton monthly; their draft of water is 18½ feet light, and 22½ feet when laden, *ib.* 246.—Statement of charges for passage money and freight, *ib.* 246.—This Company under contract with the Government of the United States for the conveyance of the mails, *ib.* 246.

Passage. (*See* Cork.)

Patent Slip:—
The patent slip is quite as good as a dock for most purposes, *Lloyd*, 160.—It is very inexpensive compared with a dry dock, *ib.* 161.—It can be made capable of taking up a vessel of any size, if made proportionably strong and of sufficient dimensions, *ib.* 161.—The repairs to the large steamers in the Clyde generally done on the ship, as there is no dock large enough to take them in, *ib.* 161.

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Penn, John, Esq. (Analysis of his Evidence):—Has under consideration a plan for constructing steam-vessels of an improved construction to run 15 knots an hour between the west coast of Ireland and America, 119.—Proposes a much sharper vessel than those now employed, with engines of a new and improved construction, *ib.*—The new steamers would be about 280 feet long, with 40 or 41 feet across the paddle-box, with about 19 feet draught of water, *ib.*—The consumption of coal would be increased by increased speed, *ib.*—

Penn, John, Esq. (Second examination):—Has been engaged professionally, in conjunction with Mr. Lang, of Chatham Dockyard, relative to the proposed transfer of the Packet Station to the coast of Ireland, and in accordance with the instructions received, has prepared plans, &c., 145.—Plans of ships and of engines produced, *ib.*—With the improvements indicated upon these plans, is of opinion that a very much higher rate of speed can be obtained than has hitherto been done in ocean steaming, *ib.*—Has no doubt an average speed of 15 knots an hour could be obtained, *ib.*—Has calculated to build vessels of 2,100 tons to run 2,200 miles, with engines of 900 horse power, *ib.*—Would construct sharper and finer vessels than those now in use, and for passengers only, *ib.*—The draught of water would be 17 feet, the length 280 feet, and the breadth 40 feet, *ib.*—A vessel of these dimensions would give good accommodation for passengers, *ib.*—Witness's experience assures him that fast and sharp ships can be built perfectly safe, *ib.*

Perry, James, Esq. (Analysis of his Evidence):—Considers that Galway, when the railway is completed, and steam communication established to all the large towns and ports of the empire, will, from its situation, possess great advantages for a western Packet Station, 153.—Apprehends that considerable advantages would accrue to the commercial interests of Ireland if Galway were substituted for Liverpool for this purpose, *ib.*—Evidence relative to the increase of correspondence, and increase of passenger traffic between America and Ireland, *ib.*—Also relative to the large and increasing export trade of the manufactures of the north of Ireland to America, *ib.*—Belfast goods now sent to America *via* Liverpool, *ib.*—By sending them direct to Galway for exportation there would be a saving of time and of expense, *ib.*—Does not think any considerable quantity of goods is sent by Cunard's packets, *ib.*—7*l.* a ton the usual rate of freight by these packets; this, with 1*l.* a ton for freight from Belfast to Liverpool, makes the rate almost prohibitory, except under very peculiar circumstances, *ib.*—1*l.* a ton would be about the average charge for carriage by railway from Belfast to Galway, *ib.*—The present rate of insurance from Liverpool to Galway about the same as the insurance from Liverpool to New York, the risk and danger being considered to be incurred in the Channel, before they get clear of the Irish coast, 154.—The insurance would be less from Galway to New York than from Liverpool to New York. The dangers of the Channel navigation cause this high rate of insurance, *ib.*—The Irish manufactured goods occasionally sent to America by steam, but the larger quantity are sent by ordinary sailing vessels *ib.*—The sailing-packets charge about 2*l.* per ton, and the sailing-vessels about 1*l.*, and the steam-packets about 7*l.*—Belfast goods generally go by Liverpool, *ib.*—There is not trade enough at Belfast for frequent dispatch, but as trading-vessels and sailing packets go almost weekly from Liverpool, they are almost sure of dispatch when sent over, *ib.*—The manufactures of Ulster the principal exports from Ireland to America, *ib.*—A western Packet Station would prove serviceable to the better class of emigrants, *ib.*—3*l.* a head, without provision, the average charge from Ireland, *ib.*—With provisions for six or eight weeks, the expense would be above 3*l.* more, *ib.*—Thinks the space now occupied by goods would be more profitably filled by the better class of emigrants, *ib.*—Evidence relative to the quantity of luggage usually taken by emigrants, *ib.*—The saving of time to small farmers, mechanics, &c., by going in a steam-vessel would more than compensate them for the additional expense, compared with sailing-vessels, 155.—Believes great numbers of these classes will emigrate in the next few years, *ib.*—The advantages of Galway, as compared with Liverpool, are a saving of time of at least 12 hours, with greater certainty and regularity; a shorter sea voyage by at least 350 miles, or 30 hours as the average of the Channel navigation, *ib.*—30 hours the average time occupied by Cunard's vessels from Liverpool to the longitude of Galway, *ib.*—At least 120 tons of coals saved by the shorter route, *ib.*—The saving per voyage in coal, and additional freight, would be 690*l.*, *ib.*—The cost of conveyance of goods between Liverpool and Galway not more than 30*s.* a ton, *ib.*—Further evidence relative to the probable increase of passenger traffic between Ireland and America, *ib.*—Evils of the detention of emigrants at Liverpool would be avoided by starting from Galway, *ib.*—These evils described, and nature of the attempts made to remedy them, *ib.*—Admits that there are no docks at Galway capable of taking in the transatlantic steamers, but sufficient dock accommodation would be provided as soon as the want of it was made known, 156.—Is not aware whether there is water enough at Galway for such docks, thinks there is, *ib.*—The saving of 12 hours by starting from Galway an important advantage in the conveyance of the mails, *ib.*—Advantages of this route for telegraphic communications, *ib.*—Evidence relative to existing and projected telegraphic establishment on Irish railways, *ib.*—Galway harbour the bay within the Aran Islands, but the harbour, strictly speaking, is the small bay between Multon Island and the main, *ib.*—A pier from Mullon Island necessary to make Galway perfect for a Packet Station, *ib.*—Thinks the advantages Galway superior to those of any of the other Irish ports, *ib.*—The advantages of Galway, from its position, considered, and the gain of time by increasing the length of railway travelling, and diminishing the sea voyage, 157.—The railway company willing to make the docks at Galway equal to the wants of the packet service, *ib.*—The last mail steamers increased in size in order to obtain increased speed, *ib.*

PORTS OF CALL FOR TRANSATLANTIC MAIL STEAM-PACKETS —

Generally.—Objects to a port of call; thinks the maximum of advantages should be in favour of the mail steamer taking her departure finally from the port from which she starts, *Mulvany*, 182.—Thinks a port of call merely would increase both the risk and the delay, *ib.* 182.—Ports of call are generally inconvenient, expensive, and cause too much loss of time, *ib.* 289.—They are justly dreaded by sailors, *ib.* 290.—If Liverpool or Holyhead were retained, it would still be advantageous to have a port of call on the south or south-west coast of Ireland, *Bernard*, 202.

Berehaven.—Thinks this port the best in Ireland for a port of call, *Evans*, 136.—Considerable expense would require to be incurred to fit it for this purpose, *ib.* 136.—The surf sometimes so very heavy off Berehaven that a vessel would be driven so far to the leward that it would be difficult to haul sharp round for the port, *Belcher*, 173.—Steam vessels liable to damage by rounding to at such a time, *ib.* 173.

Cork.—Advocates forming Cork into a port of call for one year, to prove the advantage of this arrangement, *Hoare*, 28.—Thinks it would be a boon to mercantile men, by allowing them more time on the outward voyage from London for their letters, &c., *ib.* 28; *Washington*, 129, 132.—Queenstown Cove of Cork, the most suitable port in Ireland for a port of call if a packet station be not established, *Belfast Chamber of Commerce*, 47; *Shea*, 51.—Until a landing jetty is built, would moor a hulk in the harbour at Cove, and have a small river steamer to go up to Monkstown or Passage, in connexion with the railway, *Washington*, 132.—Cork, on account of its position, peculiarly eligible as a port of call, *Shea*, 51.—The transatlantic steamer now passes within a few miles, and frequently within sight of Cork, both on the outward and homeward voyage, *ib.* 51.—Cork the most eligible port in Ireland for a port of call, *O'Bryen*, 52.—Thinks the deviation would not average a loss of more than five hours on the outward voyage, and that on the homeward voyage time might be saved, *Hoare*, 28.—The delay would not be more than four hours, *Washington*, 130; *Denham*, 148.—It would take from an hour and a half to two hours for a steamer to run into Cork Harbour, and come out again, *Denham*, 148.—Assumes that the mail

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Ports of Call, &c.—*continued.*
would be put into a boat ready to receive it, which would take about five minutes, *ib.* 148.—The passage between Liverpool and Cork often attended with delays, *Hoare*, 28.—Is not aware of any advantage which would result from establishing a port of call on the south coast of Ireland, *Quinlivan*, 43.—It would even increase the dangers of the channel and coast voyage, and would not save any time for mails and passengers, *ib.* 43.—The uncertainty of arrival would be greater than at present, and the cost to the Government would be increased, *ib.* 43. Thinks a port of call would defeat all the objects looked forward to by the public, *ib.* 43.—A port of call would answer no good purpose for the conveyance of mails and passengers, *Beausire*, 44.—Such an arrangement would be attended with delays and additional risks in navigation, *ib.* 44.—Thinks Cork too far out of the present route to make a port of call. *Hill*, 48.

Crookhaven would be very suitable as a port of call if the water is sufficiently deep, *Washington*, 129.—Crookhaven being only five miles out of the course, going and returning, the delay would not be more that two hours and a half, *ib.* 130.—It is perhaps the best port in Ireland for a port of call, *Puxley*, 280.

Holyhead.—It would be far better to pick up and set down the mails and passengers at Holyhead than making any of the Irish ports a port of call, *Firth*, 54.—A gain of five or six hours could be effected by such an arrangement, *ib.* 54.—It might be made a port of call on the homeward passage, provided a proper pier were set apart for the use of the packets, *Cunard*, 127.—If made a port of call outward as well as homeward, the use of the northern passage would be lost, *ib.* 127.—The option of taking either northern or southern passage of great importance, *ib.* 127.—A delay of 24 hours may be saved by taking the northern passage, *ib.* 127.—In a south-west gale they can run 300 miles in a smooth sea off the northern coast quicker than they get 100 miles on the southern course, *ib.* 127.—Statement of the relative proportions of the northern and southern passages, made by the British packets in 1849 and 1850, *ib.* 127.—By making Holyhead a port of call, and retaining Liverpool as the port of arrival and departure, with other arrangements, a considerable acceleration of time would be obtained at little extra expense, *Hill*, 141.—If Holyhead were made a port of call, retaining Liverpool as the port of arrival and departure, thinks, at the expiration of a few months, the packets would only go to Liverpool when compelled for repairs, *Brunel*, 152.—By retaining Liverpool as the port of departure, and making Holyhead the port of call, the saving of time would be nearly as great as from Galway, and the increased expense very inconsiderable, *Hill*, 206.

Valentia.—If not used as a packet station for passengers, it ought unquestionably to be made a port of call for the letters, *Fitzgerald*, 259.—A letter for Liverpool *via* Valentia would arrive 24 hours earlier than by the present route, *ib* 259.

Ports on South and West Coast of Ireland:—
Suggested for Transatlantic Packet Station:—
Bershaven (*See* Bersehaven).
Cork (*See* Cork).
Crookhaven (*See* Crookhaven).
Dunmanus Bay (*See* Dunmanus Bay).
Foynes (*See* Foynes).
Galway (*See* Galway).
Long Island Channel (*See* Long Island Channel).
Tarbert, (*See* Tarbert).
Valentia (*See* Valentia).

Postal Arrangements.
Rapid communication between London and Dublin considered of great importance, *Maberly*, 89.—The utmost acceleration that can be afforded without incurring the expense of a special train sought to be obtained, *ib.* 89.—Further acceleration not anticipated, except by improving the packet service between Holyhead and Kingstown, *ib.* 89.—No measures are in contemplation at the Post-office for the acceleration of the mail communication with the ports of the south and west of Ireland, *ib.* 89.—Arrangements described which would be made if the packet station were transferred to a port in Ireland, *Hill*, 138.—If the railway to Galway were completed, a mail dispatched from London at 8 P.M., and travelling all the way by the ordinary mail conveyance, would be put on board at Galway

Postal Arrangements, &c.—*continued.*
in 30 hours, *ib* 140.—If the same mail, on reaching Dublin, were forwarded by express train to Galway, it might be done in 22 hours, *ib.* 140.—This would cause an increased expense of 2,000*l.* per annum, *ib.* 140.—As regards the inward mails, express conveyance would be required from Galway to Liverpool, and the trains alone, without the special packets, would cost 2,800*l.* a-year additional, *ib.* 140. Increased facilities would largely increase the number of letters, *Monteagle*, 189.—If the mails were dispatched from the west of Ireland to Halifax, and the several railways thence to Quebec and the United States completed, the number of letters sent would be largely increased, *ib.* 189.—This route would monopolize all the European letters from the north of Europe, including Holland, Belgium, Hamburgh, Northern Germany, and the Baltic, as well as all the English and Scotch correspondence, *ib.* 189.—Time of departure and arrival of mails between London and Dublin, *ib.* 87.—Time pretty accurately kept; the delay seldom more than half or three-quarters of an hour, except in cases of accident, *ib.* 87.—Time of arrival of London night mail at Cork, Long Island (Skull), Crookhaven, Berehaven (Castletown), Valentia, Limerick, and Galway, respectively, *ib.* 87.—Time of arrival in London of mails from these places, *ib.* 88.—Letters between Glasgow and Dublin are forwarded by Holyhead, and by the Greenock and Belfast route, *ib.* 88.—Time of arrival and departure of letters so conveyed, *ib.* 88.—Mails for the United States and British North American Colonies are forwarded from Liverpool by the British packets every Saturday between April and November, and every alternate Saturday during the rest of the year; by the United States packets every fortnight, and from Southampton by an United States packet on the 20th of every month, *ib.* 88.—The British packets go to New York and to Boston, *viâ* Halifax, alternately; all the United States go direct to New York, *ib.* 88.—Mails are conveyed by railway in Great Britain and Ireland at from 20 to 35 miles an hour, *ib.* 89.—The highest rate of speed sought to be obtained without incurring the expense of a special train, *ib.* 89.—Evidence relative to the expediency of sorting the letters and newspapers on board the packets, to accelerate their delivery, *Hill*, 205.—Strong objections entertained to the project of sorting letters on board, *ib* 205.—Same objections not urged against sorting newspapers, *ib.* 205.—Average number of letters received at Liverpool from America when the packets ran monthly, 28,000, and 18,000 when they ran fortnightly, *ib.* 205.—The average number of newspapers sent from Liverpool to America when the packets ran monthly was 54,000, and 32,000 when they ran every fortnight, *ib* 205.—If the American correspondence were sorted on board the packets, it would increase the expenses by 20,000*l* a-year, *ib.* 206.—As very little time would be saved by this arrangement, the expenditure considered unjustifiable, *ib.* 206.

Post Office, Liverpool:—
List of establishment employed in Packet and Shipletter office at Liverpool, showing number and cost of persons employed, *Post Office*, 95.—This large force caused by landing and embarking of American mails there, *ib* 94.—Cost incurred at Liverpool for conveyance of American mails from the Post-office to the packets, *ib.* 94.—The mails are conveyed from the packet to the Post-office at the expense of the contractors, *ib.* 94.—The present establishment at Liverpool could not be much reduced by making Holyhead a port of call for American mails, *ib.* 94.—Statement of the facilities afforded at Liverpool for the dispatch for letters for America up to the time of the departure of the packet, *Cunard*, 127; *Maxwell*, 216.—Letters for America could be taken 24 hours later from Liverpool than from Galway, *Cunard*, 127.—124,191*l.* 10*s.* 10½*d.* paid in 1850 for letters to and from the United States and British North America, by the Cunard packets, exclusive of the letters sent in sealed bags from London, and exclusive also of those brought in sealed bags to London, *Maberly*, 242.

Post-office, Holyhead:—
Statement of the changes which would be made in the arrival and despatch of letters, &c., if Holyhead were made a port of call for American mails, *Post Office*, 94.—Number and cost of the establishment required if the bags were opened and made

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Post Office, Holyhead—*continued.*
up at Holyhead, *ib.* 94.—Number if they were merely landed and embarked, and made up in Liverpool and London, as at present, *ib.* 94.

Post-office, Galway:—
If Galway were made a transatlantic packet station, the mails to and from that port would be forwarded by the Chester and Holyhead Railway, *Post Office*, 95.—They would leave London at 8 P.M., and reach Holyhead at 5·49 A.M. the next morning, and Kingstown at about 11 A.M., *ib.* 95.—The mails would remain in Dublin until 7 P.M. the same day, and then be dispatched by Midland Great Western Railway to Mullingar, and then forwarded to Galway, *ib.* 95.—If this railway were finished to Galway, the mails leaving Dublin at 7 P.M. would reach Galway at 2 A.M. the following morning, *ib.* 94.—Number and cost of establishment which would be required by making Galway the port for American mails, *ib.* 94.—If the mail packet from America arrived at Galway after the last train had left for Dublin, it would be detained until the following evening, as there is at present only one mail a-day between Dublin and Galway, *ib.* 94.—The mails could be assorted at this post-office, if the expenses were sanctioned, but the work could be more conveniently and economically performed at the post-office in Dublin, *ib.* 104.—Is of opinion that the transfer of the packet station to Galway would not necessarily imply the establishment of a sorting staff at that port, *Hill*, 138.—A sorting staff would cost 2,300*l.* a-year, *ib.* 138.

Post-Office, Dublin:—
There are only two mails a-day from Dublin to London, one at 12·30 P.M., and the other at 7 P.M., *Post Office*, 95.—If the North American mails arrived too late for either of these despatches they would be detained for the following despatch, *ib.* 95.—If a packet station were established in Ireland for American mails, the business of sorting could be more conveniently and efficiently performed at the post office at Dublin than at the port, *ib.* 104.

Plymouth:—
Thinks Plymouth ought to be the principal packet station in the United Kingdom, Cork next, and then Berehaven or Long Island, *Norcock*, 30.—One of the two latter desirable in the event of easterly gales or damaged machinery in a steamship, *ib.* 30.—Plymouth better than Southampton for a packet station, *Manchester Chamber of Commerce*, 48.—There is a deep-water pier, between 400 and 500 feet long, with 50 feet at low-water springs inside the pier head, and in smooth water, *Brunel*, 152.—The docks now building, with 80 feet gate entrances, and a graving dock 400 feet long, *ib.* 152.

Queenstown—(Cork):—
The best port in Ireland for a transatlantic packet station, being one of the finest harbours in the world, *Aylen*, 41.—Can be entered at all times of tide by first class ships of war and packets drawing 19½ feet of water, have sufficient water and passage at the lowest neap tide. (*See* Cork.)

Railways:—
A communication is expected to be made between the Midland and Northern Railways of Ireland, which, though not very direct, will make a continuous railway communication between Belfast and Galway, *Perry*, 153.—Statement of the present state of railways in Ireland, showing the proposed connexion of lines completed with those in progress or projected, *Mulvany*, 186.—The charge for goods by railway from Belfast to Galway would be about the same as the freight from Belfast to Liverpool, *Perry*, 153.—About 2*d.* a ton the average charge for conveyance of goods by railway, *ib.* 153.—Coals are carried at 1*d.* a ton, and manure at ½*d.* *ib.* 153.

Randall, William, Esq. (Second examination):—Is harbour-master of Limerick, 197.—Attends at the request of parties interested in the Shannon to give evidence on the nautical points involved in the inquiry, *ib.*—Is acquainted with all the ports, both of England and Scotland, *ib.*—If the Shannon were to be selected, should recommend the harbour of Foynes, not only as offering every facility for at once setting to work, but as offering the most direct accommodation for the landing of passengers and for the safety of the steam-packets, 197-98.—Thinks that facilities at the harbour of Foynes could be

Randall, William, Esq.—continued.
made with a very small outlay, quite equal to those of the Southampton docks, 198.—The channel at Foynes is narrow at the entrance, but this objection not important. In making the harbour of Foynes with a steamer, there would be no difficulty in running alongside the pier without swinging, *ib.*—The width of the channel at the narrowest point about 600 yards. At low water at present, it is about 360 yards wide, but might be increased by dredging to 500 yards, *ib.*—When dredged, a pier could be built into 22 feet at low-water spring-tides, *ib.*—The strength of the tide at this place about 3 miles an hour, *ib.*—Inside the harbour the water in any weather would be as smooth as at the entrance of the Southampton Docks, 198.—Probable difficulties arising the narrowness of the channel assumed and showing how they might be overcome, *ib.*

Lord Monteagle:—Suggests the examination of certain Admiralty officers competent from practical experience of giving evidence on the advantages of Foynes Harbour, *ib.*—The "Shearwater" driven from other anchorages, and was sheltered in safety at Foynes, *ib.*—Could take a large vessel as easily into Foynes as Southampton Dock, 199.

Repairs to Steam Vessels and Machinery:—
Steam-vessels do not require to be put into a dry dock unless they require general repairs, *Lloyd*, 160.—Those vessels have generally several mechanics on board, engineers, boiler-makers, and others, capable of executing ordinary repairs, *ib.* 161.—General repairs ordinarily required every three or four years, *ib.* 160.—Such repairs can only be properly executed by the manufacturer, *ib.* 161.—Repairs to machinery can be made, if not very extensive, without taking the vessel into dock, *ib.* 160.—If the machinery sustains a serious accident, it must be sent to the manufacturer to be repaired, *ib.* 160.—Any accident which would require the engines to be taken out of the vessel must be repaired by the manufacturer, *ib.* 160.—An examination of the machinery should be made after every voyage, but after two or three voyages, a more minute inspection should be made for greater security from accidents, *ib.* 161.—The Government steam-vessels are repaired at Woolwich and Portsmouth, *ib.* 161.—These vessels seldom require to be repaired at foreign ports, *ib.* 161.—The vicinity of large engineering establishments essential to the efficiency of the Transatlantic Packet Service, *Cunard*, 126.—Establishments equal to those at Woolwich or Liverpool necessary for this service, *Belcher*, 31.—Thinks a very small manufactory would be sufficient to do all the repairs required at a western port, *Lloyd*, 161.

Robinson, Admiral Hercules. (Analysis of his Evidence):—Is well acquainted with the west-coast of Ireland, 175.—Extent of witness's service, and where employed, 176.—Is strongly impressed in favour of Galway for a Packet Station, *ib.*—Westerly winds prevail eight months out of the twelve on this part of the coast, *ib.*—Considers Galway at the present time fit for a Packet Station, but that it could be made more fit by certain works within Mutton Island, *ib.*—There is shelter at present for vessels of the size of the mail steam-packets, *ib.*—The passengers could now be landed in the town; with the causeway from Mutton Island they could be landed at once on the jetty, *ib.*—The construction of the causeway estimated at less than 75,000*l.*, *ib.*—The extension of soundings 70 miles off the Arran Isles in favour of Galway, *ib.*—Its facilities of approach described, *ib.*—Does not think there is more danger in rounding-to to sound in the Atlantic than there is in the channel, *ib.*—Does not think the sea off the west coast unusually heavy, *ib.*—Soundings not necessary in approaching unless in very thick weather on account of the great facilities for getting in, *ib.*—If very thick, would wait until it got clear to run in, *ib.*—Would run for Galway with equal confidence as for the Start or Lizard or any other headland, 177.—Cannot conceive the possibility of such weather as would prevent an observation being taken in a voyage between America and Galway, *ib.*—Has never been in any part of the Atlantic five or six days wholly without an observation, *ib.*—Description of weather prevalent on the west coast of Ireland, *ib.*—Regards it as almost out of all calculation to go from Newfoundland to the coast of Ireland without an observation, *ib.*—The Belfast and Galway railways proposed to

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Robinson, Admiral—continued.
be connected at an expense of 10,000*l.*, *ib.*—The linens of Belfast will then be sent to Galway *via* Dublin, *ib.*—The saving of time by this means said to be more than equivalent to the difference of freight, *ib.*—The freight being 7*s.* and the charge per railway 20*s.*, *ib.*

Mr. Mulvany:—Has seen merchant vessels badly found riding in safety in Galway Bay in heavy gales, 177.—At such times passengers could not have been landed, not even at low water, without the works before referred to, *ib.*—The coast is remarkably clear and free from such fogs as would prevent the headlands from being seen, *ib.*—Distances from which several headlands, mountains, and lights are seen from sea, *ib.*—The headlands, both of the Shannon and of Galway, are 70 miles asunder, and no shoal water, *ib.*—The water deepens gradually to the 70 fathoms line outside, *ib.*

Admiral Robinson:—Has seen an ill-found merchant vessel riding at anchor in a gale of wind inside Mutton Island, the spot where steamers would anchor, 177.—The dangers of a lee shore less felt at Galway than at any other place, there being so many open doors, *ib.*—In running in at night, after making the entrance to the bay, it would be desirable to have a second light upon Mutton Island; but there is abundance of width—a wide channel, wider than that into the Havanna, or St. John's, Newfoundland, or some of the best harbours in the world, *ib.*—There is good shelter inside of Mutton Island for steamers at this moment, *ib.*—Can scarcely conceive any state of weather in which a boat could not land, *ib.*—Galway the only port to which there is a railway, *ib.*—The Arran Islands a shelter to the bay, and break the sea, *ib.*—If the ship anchored outside in the bay, she might anchor close enough to have shelter, *ib.*—There are 28 or 29 feet inside of Mutton Island, and 30 feet where it is proposed to have the pier, *ib.*—Inside of Mutton Island there are 25 feet low-water at spring-tides, and 40 feet at high-water, *ib.*—There is a natural breakwater at present between the island and the main, *ib.*—It would be very easy to convert it into a causeway, *ib.* The proposed breakwater would extend some hundred yards beyond Mutton Island, and would give quays of 29 feet water, by the side of which the steamers might lie, 178. Considers Galway in its present state fit for packets drawing 19 feet water, *ib.*—A case of hurricane might arise in which mails could not be landed, but under all ordinary circumstances, when a vessel could land in any other good harbour, she could land here, *ib.*—The damage to the dock gates by heavy seas very trifling, *ib.*

Mr. O'Flaherty:—On the nature and extent of the works suggested in Galway harbour, and on the probability of their being carried out, *ib.*

Admiral Robinson:—The cost of the proposed quay estimated at less than 50,000*l.*, *ib.*—Evidence relative to the condition of the people in the western counties, and the benefit which would accrue to them by carrying out these works and introducing American capital into the country, *ib.*

Royal Mail Steam Packets.—(*See* British and North American Royal Mail Steam Packets.)

Scattery Road:—
The great roadstead on the north side of the Shannon, close to Kilrush, *Washington*, 131.—It is what sailors call a wild place, *ib.*

Shea, Mr. (For Analysis of his Evidence, *see* under *Murphy*).

Shannon River—Ports in:—
Suggested for establishment of Transatlantic Packet Station.
Foynes (*See* Foynes).
Limerick (*See* Limerick).
Scattery Road (*See* Scattery Road).
Tarbert (*See* Tarbert).

St. George's Channel:—
Statement of the dangers from collisions, &c, *Chamber of Commerce, Southampton*, 225.—List of casualties, collisions, &c., in St. George's Channel in 1850, especially those entering the port of Liverpool, *Young*, 229.—Observations on the risks and difficulties of channel navigation, especially in winter, *Fitzgerald*, 258.—These risks tested by insurance companies, *ib.* 258.—Does not recollect any collision of British packets with other vessels

St. George's Channel—*continued.*
in the Channel, *Cunard*, 129.—Detention from fogs less in the Channel than at Halifax, *ib.* 129.—The speed of the mail steamers in the channel in fine weather greater than in the Atlantic, *ib.* 129. With ordinary care there is no danger in the Channel, *ib.* 129.

Southampton:—
The advantages of this port as a packet station, or as a port of trade, numerous and well known, *Chamber of Commerce, Southampton*, 225.—It is superior to any other port in the United Kingdom, *ib.* 225.—The depth of water from Calshot Castle to the Docks is sufficient for merchant vessels and steam ships of the largest size, *ib.* 225.—A man-of-war of the heaviest construction can lie at anchor in the river at all times of the tide, *ib.* 225.—The establishment of the foreign line of mail steamers caused by the objectionable position of Liverpool, in reference to the Continent and its inconvenient distance from London, *ib.* 225.—Vessels more liable to delays and danger in the Irish than in the British Channel, where casualties are almost unknown, *ib.* 225.—The communication between Southampton and London by railway and electric telegraph most facile and convenient, *ib.* 226.—The shortness of the line and the unity of management admits of frequent special trains without risk or danger, *ib.* 226.—Arrangements are now in progress for giving two or three hours' earlier notice of the arrival of foreign mail steamers, and providing a special train for mails and passengers if the ordinary trains have been despatched, *ib.* 226.—Southampton the port concentrating mails, passengers, and goods from the north of Europe, Germany, Belgium, Holland, Switzerland, France, and partially from Spain and Portugal, for India, China, English and Foreign West Indies, United States, Brazils, West Coast of South America, Mexico, and California, *ib.* 226.—The removal of the packets would lead to the transfer of these advantages to Havre, *ib.* 226.—Further particulars relative to the facilities at this port for all the requirements of a packet station, and its easy approach to London, *Harding*, 301.—Southampton has a dry dock capable of receiving the largest vessels, *Lloyd*, 159.—This dock of recent construction, the mail packets having run from this port for several years with no possibility of being docked here, *ib.* 159.—The open dock of the Southampton Dock Company has an entrance 150 feet wide without gates, *Chamber of Commerce, Southampton*, 225.—The largest steamers can always steam into the great tidal basin of 16 acres, and lie there with perfect safety, *ib.* 225.—The "Hermann," "Franklin," "Washington," and other New York steamers drawing 22 feet of water, as well as the large Oriental and West India mail packets, all use this basin, *ib.* 225.—This port has the most perfect means of building or repairing ships or steamers, extensive engineering establishments, and graving docks capable of receiving the largest steamers, *ib.* 226.—There are 4,000 feet of quay line complete and in use, and a new dock of 11 acres being constructed, which will be ready in a few months, *ib.* 225.—The expediency of retaining this port as a packet station very doubtful, *Manchester Chamber of Commerce*, 48.—A delay of one, and frequently of two days, takes place, as regards the bulk of the manufacturing industry of the kingdom, by making Southampton a landing port, *ib.* 48.—London would be as promptly served by changing the station to Plymouth or Liverpool, *ib.* 48.—As regards the mails, Southampton has no advantage by making it a packet station, *Maberly*, 144.—It is not a sorting place for letters; all the letters for this port from India, West Indies, and the Peninsula, go to London, and then back to Southampton, *ib.* 144.

Speed of Mail Steam Packets:—
City of Dublin Steam Packet Company—They contract to perform the passage between Holyhead and Kingstown at not less than 12 knots per hour, *City of Dublin Steam Packet Company*, 54.—The passage is now frequently made in less time, *ib.* 55.—This speed is not likely to be reduced; if increased it would alter the terms of the contract, *ib.* 55.—The vessels plying between Holyhead and Dublin attain a speed of from 13 to 15 miles an hour, *Mulvany*, 185.

British and North American Steam Packets (Cunard's Line).—The average rate of speed of these vessels does not indicate their capabilities of maintaining under different circumstances a con-

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Speed of Mail Steam Packets—*continued.*
siderably greater speed, *MacIver*, 55.—The difficulties of the North Atlantic service, as regards severity of weather and high seas, obstructions from in prevalence of fog, &c., prevent an accurate calculation, *ib.* 55.—Thinks 11 miles an hour may be safely calculated on for the average passage out and home, *ib.* 55.—Their vessels average 11 miles on the outward, and 11¼ miles on the homeward passage, *Caffin*, 13.—Statement of the average rate per hour performed in eight voyages in 1850, *MacIver*, 39.—On some voyages the new vessels have gone 12½ knots an hour for the whole passage, *Cunard*, 127.—Anticipates the new vessels will go about 13½ knots an hour, *ib.* 127.

Speed.—Anticipated from Improvements in the Construction of Steam Vessels:—
It is proposed to construct steam vessels capable of running 17 nautical miles an hour, *O'Flaherty*, 106.—Between Galway and Halifax considerably more than 17 miles an hour could be done, *ib.* 106.—The "Banshee" has gone 17 miles an hour, *Cunard*, 128.—Thinks it would not be possible to construct a steam vessel to run 15 miles an hour across the Atlantic, *ib.* 127.—Does not think any vessel could steam 15 miles an hour against a heavy sea, *ib.* 127.

Steam Packets.—Between England and America. *See* British and North American Royal Mail Steam Packets and United States Mail Steam Packets.

Steam Vessels for North American Packet Service.
I. Description of:—
1. British and North American Royal Mail Steam Packets (Cunard's line), Liverpool and New York *vid* Halifax.—(*See* British and North American Royal Mail Steam Packets).
2. United States Mail Steam Packets, New York and Liverpool, New York and Havre *via* Southampton, New York and Bremen *via* Southampton.—(*See* United States Mail Steam Packets, and Ocean Steam Navigation Company.)

II. Proposed Improvements in:—
The shortest transit from Galway to Halifax would admit of vessels of a different construction being built capable of a higher rate of speed, *O'Flaherty*, 106.—The build of vessels not intended for Channel navigation could be constructed so as to obtain greater speed, *Galway Committee*, 45.—By starting from Galway instead of Liverpool, vessels of greater power could be built, *ib.* 45.—Does not believe that a steam vessel could be constructed to cross the Atlantic at the rate of 15 miles an hour, *Cunard*, 127.—It could be done in smooth water, but not under ordinary circumstances across the Atlantic, *ib.* 127.—Does not think any vessel could go 15 miles an hour against a heavy sea, *ib.* 127.—Or that the mails would be conveyed with such regularity in the 15-mile steamers as at present, *ib.* 128.—Steamers intended for the conveyance of letters and a few passengers only might be constructed to go a knot or a knot and a half per hour more than the present packets, but not more, *ib.* 128.—The working expenses of such vessels would be great, and the returns small, *ib.* 128.—The establishment of a western packet station will cause an entire change in the description of packets employed, *ib.* 273.—Believes that the large transatlantic steamers may very soon be constructed to run 16 or 17 knots an hour, *Brunel*, 149.—The "Great Britain" had power to run 17 knots, and could very easily have gone to America and half way home again without any inconvenient cargo, *ib.* 149.—The improved transatlantic steamers referred to by witness would carry as much cargo in proportion as the present steam packets, *ib.* 149.—Until a speed of 18 miles can be relied on, no important saving of time can be hoped for by changing the present packet system, *Belcher*, 32.—This velocity cannot be attained by vessels of larger dimensions than the "Vivid" or "Banshee," *ib.* 32.—Between Galway and Halifax, a steamer running considerably more than 17 miles an hour could be employed, *O'Flaherty*, 106.—Mr. Penn is prepared to construct a steamer for this service, which would be infinitely superior in speed to the vessels now employed, *ib.* 107.—The increased speed expected to be obtained by the diminished cargo of coals necessary for the shorter voyage, *ib.* 107.—A vessel leaving Galway would make the passage in five days, and would require only half the cargo of coals she would have leaving

Steam Vessels—Proposed Improvements, &c., *continued.*
Liverpool, *Daly*, 107.—It is proposed to construct steam vessels capable of running 17 nautical miles an hour, *O'Flaherty*, 115.—A vessel of this description would make the voyage from Galway to Halifax in 5½ days, *ib.* 115.—Such a vessel not intended to carry any except light goods, *ib.* 115.—The improvement advocated solely on account of passengers and postal communication, *ib.* 115.—Mr. Penn asserts that he could construct a steam vessel to go 16 nautical miles an hour between Galway and Halifax, and that it would not be possible to build a vessel to run at such speed between Holyhead and Halifax, *ib.* 115.—Suggests an improvement in the construction both of vessel and engine, *Penn*, 145.—Plan of proposed improvement submitted, *ib.* 145.—With such a ship and engine, has no doubt an average speed of 15 knots an hour could be obtained, *ib.* 145.—Has based his calculation for a voyage of 2,200 miles, *ib.* 145.—Vessel constructed in accordance with witness's plan would be 900 horse power, and of about 2,100 tons, *ib.* 145.—It would be a much sharper and finer vessel than those now in use, intended for passengers and coals, and not for goods, *ib.* 145.—It would be 2,136 tons burthen, 280 feet long, and 40 feet beam, and across the paddle boxes about 28 feet more, and 17 feet draught, *ib.* 145.—It would give as much accommodation for passengers as the present packets, *ib.* 145.—The proportions of such a vessel very different in the lines from anything hitherto used for the Atlantic service, *ib.* 145.—Is of opinion that she would be perfectly safe, *ib.* 145.—Witness's experience convinces him that fast and sharp ships can be constructed perfectly safe, *ib.* 145.—If the packet station were in England instead of Ireland, would build a similar vessel, but of much larger size, on account of the increased stowage required for the additional 280 miles run, *ib.* 145; *Lloyd*, 162.—To effect an average speed of 15 miles an hour, it would not be possible to carry much goods, *Lloyd*, 162.—The speed of the vessels might be increased, if the voyage were diminished by 300 miles, *ib.* 162.—Has no doubt that an average of 15 knots an hour may be obtained across the Atlantic, *ib.* 162.—A steamer of 2,000 tons built for such a speed would be about 280 or 290 feet long, with a breadth of about one-seventh, exclusive of the paddle-boxes, *ib.* 163.—This rather longer than usual, but the vessel must be built sharp to go 15 knots, *ib.* 163.—The sharper the vessel the less force, and consequently the less fuel required to drive her, *ib.* 163.—As far as witness's experience goes, sharp vessels are better than the bluff ones, *ib.* 163.—Thinks the passenger traffic and the conveyance of the mails have become of sufficient importance to demand the introduction of an improved class of steamers, *Archibald*, *ib.* 169.—Packets for the west of Ireland station should be constructed exclusively to carry passengers and mails, *ib.* 274.—They should not be of less than 800 horse power, and well-constructed sharp vessels, *ib.* 274.—By dispensing with cargo, using lighter and improved engines, and less coal, such vessels might be 1,460 tons lighter than Cunard's packets, *ib.* 274.—The cost of such improved vessel, capable of making 12 voyages or 24 passages per annum between Ireland and Halifax, would be 70,000*l* or 80,000*l*, *ib.* 274.—Estimate of the cost of five vessels of improved construction of 800 or 1,000 horse power, with the annual expense of 88 passages between Ireland and Halifax, *Calmont*, *ib.* 307.—Estimate of receipts in the same number of passages, showing the probable cost to the Post-office for conveying the mails, *ib.* 307.

Tarbert.—I. Description of:—
1. *Generally.*—The mouth of the Shannon being five leagues broad with regular soundings, the communication by sea is rendered comparatively easy, *Hall*, 13.—The soundings in this parallel of latitude extend about 100 miles off, forming a safe direction for making land, *ib.* 13.—Tarbert may be run for in perfect safety, as the entrance is clear and wide, and the soundings shoal gradually up to Killcadiana Point, *Aylen*, 41.—The Shannon is easy of entrance, but the adjacent coast (Malbay) is dangerous, *Plunkett*, 56.—Would run for the Shannon in a steam vessel drawing 19½ feet of water, in preference to any of the other ports, *Fisher*, 57; *Bower*, 67; *Smith*, 68, *Randall*, 75; *Smith*, 79; *Broad*, 80.—As a harbour of safety and refuge, with excellent anchorages along both shores, navigable at low water for line-of-battle ships, and

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TARBERT—Description of, *continued*.
free from all dangers or obstructions to within 15 miles of Limerick, considers it for all purposes, naval, military, or mercantile, the safest and best that can be found, *Randall*, 74.—A very slight knowledge of the river necessary to reach Tarbert, *O'Connell*, 101.—During nine years in charge of the Coast Guard Station at Tarbert, vessels of every description arrived at all hours and in all weathers without accident, *ib.* 101.—Tarbert the best and most available port in the Shannon, *Mulvany*, 181.—The entrance of the Shannon in a heavy winter gale at night safer than any of the other ports, except Cork, *Church*, 16.—The Shannon is navigable at low water for line-of-battle ships to within 15 miles of Limerick, *Randall*, 74.—It has excellent anchorages along both sides of the river, *ib.* 74.—As a harbour of safety and refuge, it is the best that can be found, *ib.* 74.—It is fit for all purposes, naval, military, and mercantile, *ib.* 74.

2. *Lights and Headlands.*—The approach to the Shannon is good, coming in from westward, the Blasket Island and Brandon Mountain make an excellent landfall, *Church*, 15; *Pasco*, 28.—The Blasket Islands the nearest Irish land to the American continent; the Skellig Rocks and Lights 15 miles S. S.W. of the Blaskets and the Brandon Mountains 12 miles east of the Blaskets, which may bear 50 miles from seaward, gave a chain of landfalls so continuous, and in so short a distance, that mistake under any circumstances is scarcely possible, *Randall*, 74.—The Brandon by day, and the Skelligs or Loop Head Lights by night, would be first made by a transatlantic steamer from Halifax bound for the Shannon, *O'Connell*, 101; *Pasco*, 101.—Would endeavour to make the Blasket Islands or Brandon Mountain by day, and Loop Head Light by night, *Triphook*, 102.—Loop Head, with its light at the entrance of the Shannon, a fine object to run for, *Church*, 16; *Pasco*, 28; *Aylen*, 102.—Vessels leave Loop Head and Kilcredan Lights until inside the Bar of Beale, and then Tarbert Light is seen distinctly, except in very thick weather, *O'Connell*, 101.—Loop Head Light would be first sighted, next then on Kilcredan Point, and then the light on Tarbert Point, *Church*, 15; *O'Connell*, 101.

3. *Rocks and Shoals.*—There are no rocks or shoals to prevent vessels drawing 19½ feet of water coming in, *Pasco*, 28.—Beal Bar is very dangerous, and there are several shoals southward of Scattery Island, and northward of Carrig Island, *O'Malley*, 78.—Beal Bar is not marked, *Pasco*, 101.—Killsteffeen Bank, Beale Bar, and Rinanna Shoal are the only dangers not marked, *Triphook*, 102.

4. *Anchorage Ground, &c.*—Tarbert has a safe and good anchorage, *Hall*, 13.—The anchorage is not so good and smooth as at the other ports, and landing by boats in bad weather is difficult, on account of the strength of the tides, *Church*, 17.—The jetty is fit only for boats, *ib.* 17.—From the great strength of the tides which run seven knots during the springs, and with a heavy gale, the mails could not be landed or embarked with certainty, *Risk*, 20; *Turnour*, 22.—Does not consider the anchorage good, *ib.* 22.—The tide at times run like a sluice, *Lowe*, 57.—Good anchorage in seven fathoms water two cables' length off shore, *Pasco*, 28.—It has a good deal of good holding-ground, *Mulvany*, 181.—The anchorage has been objected to; does not think the Race a serious objection to its becoming a flourishing port, *Aylen*, 41.—A very indifferent anchorage; the tides very strong, *Driver*, 55.—Has been driven with 70 fathoms chain with the force of the tide alone, *ib.* 58.—Vessels frequently unable to remain at their anchorage, *Randall*, 194.—Mails and passengers could be embarked or landed in all weathers by boats, but heavy goods not till high water, *Pasco*, 28.—Depth of water at spring tides alongside the wharf from 12 to 14 feet at high water, and nearly dry at low water, *Pasco*, 28.—When inside Loop Head, vessels can anchor in any part of the river up to Foynes Island, *Aylen*, 103. Carrigaholt is a good anchorage, *O'Connell*, 101.—Vessels could anchor in the greatest safety in this bay, on the north side of the river, half a mile from the shore, and nine miles from the Heads, *Triphook*, 102.—If the mails and passengers are to be transferred to small steamers for conveyance to Limerick, vessels of very light draught, not more than 4 or 5 feet, should be employed, *O'Connell*, 101.—A steamer for this purpose should not draw more than 4 feet water, and should be about 60-

TARBERT—Description of, *continued*.
horse power, *Pasco*, 102.—Not more than 3½ feet water, but should be at least 100-horse power, *Triphook*, 102.—Small steamers of 30 or 40-horse power, drawing from 3 to 4 feet water, the only steamers that could work on the Shannon at all times of tide, *Aylen*, 103.

5. *Docks, Wharves, &c.*—There is no sufficient town or convenience of any description for a packet station; everything would have to be created, *Mulvany*, 181.—There are no docks in Tarbert, *Pasco*, 28.—The jetty proposed to be erected by the Shannon Commissioners stopped from want of funds, *Mulvany*, 181.—The entrance of the new docks at Limerick might be increased to 80 feet to admit transatlantic steamers, without materially increasing the expense, *Griffith*, 159; *Mulvany*, 184.

6. *Repairs of Machinery, &c.*—Tarbert is without conveniences for the repair of boilers or machinery, *Pasco*, 28; *Mulvany*, 182.

7. *Price of Coals, &c.*—Coals are difficult to be procured except from Limerick, *Risk*, 21.—About 21*s.* a-ton, *Pasco*, 28.—The enthracite coal of Limerick, Clare, and Kerry can be delivered at Tarbert at 5*s.* or 6*s* a-ton, *Long*, 312.

8. *Inland Communications.*—Tarbert is the best place for a railway terminus, *Aylen*, 41.—The road between Tarbert and Limerick is tolerably level, and is used by mail and passenger cars daily, *Church*, 18.—At present there is no direct communication with Dublin nearer than Limerick, *Risk*, 21.—Tarbert is distant 9 miles from Foynes and 29 miles from Limerick, *Pasco*, 101.—If it were made a packet station, a railroad would be made immediately, *Mulvany*, 181.—The limestone districts of Ireland afford great facilities for making railways at very small cost, and at very little labour, *Long*, 201.—Particulars of the gradients on the proposed line between Tarbert and Limerick, *ib.* 201.—The night mail leaves London at 8 P.M., and arrives in Limerick at 2·8 A.M. the next day but one, *Maberly*, 87.—It leaves Limerick at 10·15 P.M., and arrives in London at 5·18 A.M. on the next morning but one, *ib.* 88.

9. *Pilotage.*—There are many pilots belonging to the Shannon, but they are chiefly found between Tarbert and Limerick, *Church*, 19.—There are, however, some western pilots at Kilbaha, about three miles east of Loop Head, inside the mouth of the Shannon, *ib.* 19.—These go out to vessels wanting pilots, *ib.* 19.—They have six canoes made of canvass stretched over a framework of ash, and will launch and go to sea in weather in which no ordinary boat of wood could live, *ib.* 19.

II. ITS ADVANTAGES FOR A PACKET STATION:—
To benefit Ireland, would prefer Tarbert, which has a safe and good anchorage, *Hall*, 13.—It seems the best place on the coast for a packet station, *Ladd*, 66.—The mouth of the Shannon being five leagues broad, with regular soundings, the communication by sea is comparatively easy, *Hall*, 13.—In this parallel of latitude, soundings extend 100 miles off, forming a safe guide for making land, *ib.* 13.—After having made the "Loop," the water is deep all the way to Tarbert, which could be reached with less difficulty than Liverpool, *Turnour*, 22.—This place has immense advantages over Valentia, *Aylen*, 41.—It is impossible to conceive any position more naturally advantageous for the purposes and objects of a transatlantic packet station, *Randall*, 74.—One of the best ports in Ireland for a packet station, *Broad*, 80.—It is more seaward than Foynes, and capable of being made a much larger harbour, *Griffith*, 158.—A railway from Tarbert to Limerick could be formed at a trifling expense, and in 20 hours the passenger might be in London, *Hall*, 13.—The Limerick and Dublin Canal an additional advantage in selecting this port for a packet station, *ib.* 5.—It affords facilities for making wet and dry docks, with piers, and capable of admitting steamers of any size at all times and tides, *Risk*, 21; *Aylen*, 41.

III. ITS DISADVANTAGES FOR A PACKET STATION:—
The anchorage is inconvenient, and much exposed to easterly winds and a strong ebb tide, *Bedford*, 11.—Landing by boats in bad weather would be inconvenient and difficult, *Church*, 17.—From the strength of the tide, and with a heavy gale, the mails could not be embarked or landed with the necessary punctuality, *Risk*, 21.—Its disadvantages counterbalance any advantages it may have, *Tur-*

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TARBERT—Description of—*continued.*
nour, 22.—It has strong tides, bad anchorage, and great difficulty in landing mails and passengers in bad weather, *ib.* 22.—The strong eddies the chief objection to Tarbert, *Smith*, 68.—The anchorage bad in winter time, *Turnour*, 68.—It is unfit for a packet station, *Laen*, 58.—It has 25 miles of difficult river navigation, *Wingrove*, 60.—It is dangerous at times, from a very strong race of tides, *Hutchinson*, 82.—It is very much exposed, with a wind from the north-east, *Griffith*, 158,—It has no conveniences for repair of machinery, *Rish*, 21.—Objects to Tarbert from the want of local advantages for trade and commerce, its position with reference to inland communications, the long estuary, and difficulties of strong tides and dangerous sea, and the want of all necessary works for a packet station, and the cost of constructing a railway to approach it, *Mulvany*, 285.

IV. IMPROVEMENTS AND WORKS REQUIRED:—
A light on the Foze or Tiraught Rocks indispensable to fit this for a station for transatlantic packets, *Church*, 16.—The Foze Rock, at the outer extreme of the Blaskets or Tiraught and the Bull, would be the right places for lights, *Washington*, 132.—A landing pier wanted, if used for a packet station, at least 500 yards long, either from Grogan Port, Ebys, or Ballydonegan Port, N.N.W., *ib.* 132.—A pier would be necessary both on the east and on west side, *Griffith*, 158.—A breakwater on the north-east, and the pier on the west side, *ib.* 158.—This work would be very expensive; it was proposed by the Shannon Commissioners for the improvement of the Lower Shannon, but the money could not be raised, although the Government offered to give one-third of the money, *ib.* 158.—Any material interference with the tidal operations by pier, &c., would destroy the harbour, which is kept clear by the force of the current, *Mulvany*, 181.—The pier required for the packet service could not be constructed without considerable danger of injuring the harbour, by interfering with the current, *Long*, 201.—The danger would be silting up with the current setting in with the downward stream, *ib.* 201.

Thomas, Mr. John, Master in the Royal Navy. (Analysis of his Evidence) —Has been a master in the Royal Navy. Acting and confirmed 27 years, 221.—Served as master two years on the coast of Ireland, *ib.*—Is a pilot for the coasts of Ireland, *ib.*—Has frequently been in Galway, but never in a gale of wind, *ib.*—Malbay the danger to be avoided in Galway Bay, *ib.*—The north end of Arran the best course for large steamers, *ib.*— Slyne head lights placed to avoid the Skird rocks, *ib.*—The light on the Arran Isle much too high, on account of the fogs, *ib.*—Fogs very prevalent on this coast, *ib.*—Frequently so dense that witness could not run in for land, *ib*—The fogs generally last about a week or ten days, *ib.*—The north passage into the bay generally used, 222.—The sea too deep to break in the bay, *ib.*—There is smooth water up to Galway, *ib.*—The anchorage under Mutton Island in four and a half fathoms very good, *ib.*—How witness would moor the large steamers in the harbour, *ib.*—Prevalent winds on coast and in the bay, *ib.*—The Marguerita Shoal and the Black Rock the only dangers in the bay, *ib.*—Prefers Galway to the Shannon in a gale of wind, *ib.*—Further evidence relative to the prevalent winds, state of the bay in certain winds, &c., *ib.*—Valentia a very small harbour and quite unfit for large ships, *ib.*—Both entrances are very narrow, *ib.*—The sea breaks quite across the northern entrance, *ib.*—Can land at Galway in all weathers, and at all times of tide, *ib.*—Has made 18 voyages in steamers across the Atlantic, *ib.*—Considers it quite safe in a gale of wind to heave a large steamer-to to sound, *ib.*—The sea much heavier on the west than on the south coast of Ireland, *ib.*—Would rather run for Galway than to Bristol by Cape Clear, 222.—In running for the Shannon, would make the land to or about Bandon Head, 223.—In running for Galway, would endeavour to make North Arran, to avoid Malbay, *ib.*—On the coast northward of the Arran Islands, *ib.*—Has been several days at sea, in coming from America, before making land, without being able to make an observation, *ib.*—Should be more doubtful in running for Galway without an observation than in running for Cape Clear, *ib.*—Reason for this opinion, *ib.*—On the coast near Cape Clear, *ib.*

TRADE BETWEEN IRELAND AND NORTH AMARICA:—Statement of the number and tonnage of vessels which cleared outwards from the ports in Ireland for North America in 1850, distinguishing the ships employed in the conveyance of emigrants and in the timber trade respectively, from other vessels, p. 246.—Further and more detailed statement, showing the number and tonnage of vessels entered and cleared at the several ports in Ireland, from and to North America in 1849, *Ross*, 248.—Return of the import and export trade of Ireland with the British colonies in North America, and with the United States respectively, in 1849, *Irving*, 249.—The like return for 1850, *ib.* 256.—Account of the quantity and value of linens of Irish manufacture exported in 1850 from the port of Liverpool to the British colonies in North America and to the United States of America respectively, *ib.* 250.

TRANSATLANTIC PACKET STATION;—Proposed Transfer from Liverpool for a Port on the South or West Coast of Ireland:—

I. *Generally.*—Advocates the establishment of a packet station in Ireland, on account of the impulse it would give to the trade of Ireland, *Daly*, 105.—Opinion in the north of Ireland universally in favour of a packet station in Ireland, *ib.* 106.—The preference generally given to Galway, *ib.* 106.—The merchants and trading interest of Belfast strongly in favour of Galway, *ib.* 106 —Visitors from other countries would be more numerous if a direct packet establishment were formed, *O'Flaherty*, 107.—The question of the transfer cannot be disconnected from the traffic in goods and passengers, *Mahoney*, 133.—For the convenience of the Post-office, the port for the dispatch and arrival of American mails cannot be too far west, *Hill*, 138.—Does not know of any advantages which would be obtained by the transfer, taking into consideration the description of vessels now employed, *Belcher*, 30.—Doubts whether an efficient and practical advantage would be gained by a saving of ten or twelve hours, which witness believes would be the maximum saving of time, *Firth*, 53.—Thinks the loss, nationally considered, would be greater than the Governments would compensate, *Coffin*, 13.—The removal of the packets to Ireland would destroy their efficiency, *ib.* 13.—Is altogether opposed to the proposed change, *Vawcart*, 53.—Does not consider the removal desirable, either as regards goods, passengers, or expense, *Firth*, 51.—Thinks there would be no advantage gained by the change, but many disadvantages, and that it cannot be carried out, *Cunard*, 124.—Does not think any time would be saved, *ib.* 125.—The loss of time in changing and transhipment would counterbalance the gain by railroad, *ib.* 125.—A steamer, leaving Liverpool for America at the *same hour* with a mail forwarded *viâ* Holyhead and Galway, would be more forward on her way to America than the steamer taking the mail from Galway, *ib.* 127.—The delay in transit would far exceed the difference of speed on the railroad, besides all the cost and trouble, *ib.* 127.—The advantages would be limited entirely to Ireland, *Mazwell*, 217 —The removal of the British packets from Liverpool would be hailed with delight by the Americans, *Coffin*, 12; *Chapman*, 217; *Maxwell*, 217, 218.—Has no hesitation in saying that any measure which would remove from the English line of steamers the American commerce would prove an enormous bounty thrown into the hands of a rival maritime power, *Maxwell*, 217.—Merchants and traders connected with the American trade have no suspicion that the removal of the packet station from Liverpool has been seriously proposed, *Duncan*, 226.—The necessity for speed sometimes so urgent that dispatches for British North America of the greatest importance, and requiring the greatest secrecy, have been sent to New York through a foreign country, at all risks, in preference to the less expeditious route through British North America, *Monteagle*, 189.—Lord Aylmer, when Governor of Canada, corresponded with the Colonial Office through the United States for the sake of dispatch, *ib.* 189.—Considers the advantages of a packet station on the west of Ireland so manifest that it is certain to be effected by some party or other, *Beamish*, 44.—From its being the shortest sea rout, it is certain that the communication can be accomplished in the shortest time, *ib.* 44.—Without adequate docks for the reception of ocean steamers, ship-building establishments, and engine and boiler factories, the

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Transatlantic Packet Station—*continued.*
transatlantic service could not be carried on with any degree of efficiency, *McIver*, 96.—Such facilities exist at Boston and New York, *ib.* 96.—It is a delusion to suppose that more engine factories in Ireland of any magnitude would meet the requirements, or offer facilities for the transatlantic packet service equal to those available at Liverpool, with its graving docks, engineering establishments, proximity to Birmingham, and the iron districts, &c., *ib.* 96.—The removal of the packet station to Ireland would be advantageous for the mails only, and not for passengers, except those from Ireland, *Evans*, 135.—The western coast difficult of access from the prevalence of fogs and westerly winds, and frequent gales, *Caffin*, 12.—Has often preferred keeping the sea to any approach of so dangerous a shore, *ib.* 12.—The approach to the south-western coast of Ireland in a powerful steamer not dangerous as there are few rocks below the surface at any great distance from land, *Church*, 14.—The risk of running for any port on the west coast would prevent the mails from being delivered with such punctuality as at Liverpool and Southampton, *Rish*, 12.—Opinion of the Irish Railway Commissioners in favour of a western port for a packet station, *Monteagle*, 190.—Does not think that many travellers would complain of the transit through Ireland, *Mulvany*, 183.—The advantages are so numerous and important that witness cannot anticipate any such retrograde step as the selection of a port on the west coast of England for a transatlantic packet station, *ib.* 289.

II. Advantages of such Transfer —

1. *Saving of Time.*—In the outward mail to Galway 10 or 12 hours might be saved; but on the homeward mail, this could not be done without incurring the expense of an express train, *Hill*, 139, —The uncertainty of the packet arriving at Galway in time to take the letters by the ordinary train the cause of this difference, *ib.* 139.—The saving of time by taking Galway instead of Liverpool would be 12 hours, with greater certainty and regularity, *Perry*, 155.—The saving of time by dispatching the mails from Galway instead of Liverpool would be about a day and a half, and the result and expense about the same as by doubling the number of British mail packets, *Hill*, 206.—This saving would not compensate for the loss of other advantages obtained at Liverpool, and at no other port, *Marwell*, 217.—Doubts whether 12 hours could be saved, taking into consideration the delays from transhipment, and the confusion which would be caused by new postal arrangements, *ib.* 217.—The saving of 12 or 24 hours on a long voyage would not compensate for the expense and inconveniences of transhipment, *Chamber of Commerce, Southampton*, 225.—The saving of 24 or 12 hours very doubtful, taking into consideration the time lost by the number of changes, *ib.* 225.—If all things are favourable, a saving of something less than 24 hours can be effected between Cape Clear and New York, compared with Liverpool and New York, *Caffin*, 11.—A saving of 36 hours might be effected with little or no additional expense for passengers, *Marmon*, 37.—A saving of 24 hours would be made by taking Valentia, *Fitzgerald*, 258.—Passengers, and delivery of mails in London would be accelerated 20 or 24 hours over the present route by Liverpool, *Bedford.*—The saving would be from 8 to 10 hours, *Caffin*, 11.—A saving of time, from 20 to 36 hours, between Liverpool and Holyhead, and a port on the west or south-west coast of Ireland, would be effected, *Marmon*, 33.—A few hours might be gained, *Aylen*, 41.—No appreciable time can be saved by a deviation from the present route, *Belcher*, 33.—There would in practice be no gain, but in general a loss of time, both for mails and passengers intended for England, *Bevis*, 39.—Admits that no saving of time would occur, but denies that there would be any practical loss, *Shea*, 48.—Considers that Manchester and other manufacturing towns in England would be benefited by the communication of earlier intelligence, *Marmon*, 35.—Telegraphic intelligence might be transmitted a few hours earlier; but doubts the probability of gain of time in respect of passengers and mails, *Horsfall*, 40.—Saving of time for mails and passengers by taking Fuynes in the Shannon as the port, 28 hours on each passage, and for 40 hours 27 minutes in telegraphic intelligence, *Quinlivan*, 42.—A saving of three days

Transatlantic Packet Station—*continued.*
and six hours between London and New York *via* Galway and Halifax, could be made, *Beausire*, 44.—The gain would be about 10 or 12 hours for mails, *Vanwart*, 53; *Mulvany*, 289.—Intelligence by telegraph might be communicated from London to the United States or Canada in 150 hours, *Vanwart*, 53.—The quick transmission of telegraphic intelligence the only advantage of establishing a packet station on the west coast of Ireland, *ib.* 53. A great saving of time would be effected, even with the packets as they at present run, *O'Flaherty*, 106.—By constructing improved steam-vessels to run 16 or 17 miles an hour a further saving of time might be effected, *ib.* 115.—The quickest route would monopolize the conveyance of letters, *ib.* 117.—Letters from America, especially, will all go by the quickest channel, 117.—Does not think more than six hours would be saved in the conveyance of letters, on account of the official delays in sorting, &c. *Chapman*, 219.—A saving of more than 10 hours generally expected, even by the existing vessels, *ib.* 117.—By improved vessels, a saving of three or four days could be made *ib.* 117.—By taking Cork as the station, Ireland would be greatly benefited in its postal arrangements, and the delivery of letters in England accelerated, *Murphy*, 120.—Letters for London *via* Cork could be delivered six or seven hours earlier than by Liverpool, *ib.* 120.—If the American mails were landed at Cork, Irish letters would be delivered 48 hours earlier than at present, *ib.* 120: *Shea*, 120.—Ten or twelve hours might be saved; but this could not be secured out and home at a less expense than 4,800*l.* a-year extra, *Hill*, 140.—The saving of time would perhaps be lost in half the homeward voyages from the danger of approaching the west coast of Ireland, *Brunel*, 151.—The saving of time would not compensate for the additional trouble and inconvenience of the passage through Ireland, *Bold*, 205.—Considers the acceleration of the mails of the greatest importance, *Monteagle*, 112.—Does not consider that there would be any saving of time between London and New York, presuming two parties left London at the same time, and one embarked at Liverpool, and the other from an Irish station, *Caffin*, 11.—With fast vessels the voyage could be performed in six or seven days, instead of 10 or 11 as at present, *Kemble*, 26.—The mails might reach London about 12 hours sooner than at present, but the detention of passengers and luggage would probably exceed one day, if not two, *Belcher*, 31.—Admits that, in respect of passengers from Cork for the north of England and Scotland, no saving of time would be gained, but denies that there would be any loss of time, *Shea*, 48.—But in respect of passengers, mails, and light goods for the southern and midland counties of England, France, and the north of Europe, a saving of from 15 to 20 hours could be made by taking Cork as the packet station, *ib.* 48.—The gain of time by taking Galway instead of Liverpool and Holyhead allowed to be 9 hours and 10 minutes only, *ib.* 114.—In considering the question of acceleration, the ordinary rate must be taken, and not the rate of the express trains, *ib.* 114,—The time occupied in transhipments of mails, passengers, and luggage would be quite equal to the distance Galway is in advance of Liverpool, *Cunard*, 127.—Does not think the transfer would effect any saving of time, *Brunel*, 149.—Believes that no time upon the average would be saved even at the present rate of speed, particularly on the homeward voyage, by the packet touching at a port on the south-west of Ireland, *ib.* 150.—Believes that there would be a loss of time instead of a gain by the number of shifts of luggage, &c., *Moore*, 209.—By means of the electric telegraph, intelligence might reach London 33 hours earlier than at present, and if an answer were required, a saving of more than two days and a-half would be effected, *Bedford*, 8.—The gain of time by the electric telegraph an important advantage, *Church*, 13; *Kemble*, 26; *Marmion*, 37.—Five days 18 hours might be saved with the electric telegraph in communicating intelligence from London to New York *via* Galway and Halifax, *Beausire*, 44.

2. *Shortening the Sea Voyage, and avoidance of the Dangers of Channel Navigation.*—The sea voyage would be lessened by 300 miles, or one-eighth of the present route, and the risk diminished, *Bedford*, 8; *Kemble*, 26.—The dangers of Channel

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Transatlantic Packet Station—*continued.*
navigation and of collisions with other vessels would be avoided by the proposed transfer, *Church*, 13.—These advantages, however, limited to the outward voyage in winter, *ib.* 13.—The security to life and cargo would be increased by avoiding the dangerous navigation of the Channel, *Marmion*, 34.—Considers it of great importance to prevent the enormous destruction of British property which now takes place in the Channel, *Effrench*, 111.—By taking Galway instead of Liverpool, the sea voyage would be 350 miles shorter, *Perry*, 155.—Passengers, especially families, are desirous to land or embark at an outport, on account of the disasters which have occurred in the Channel, *Shea*, 49; *Fitzgerald*, 258.—Avoidance of the difficult and dangerous channel navigation much desired, *Shea*, 50; *Murphy*, 120.—Has known several families take passage by sailing vessels from outports at an increased expense, rather than incur the dangers of the Channel navigation, *O'Bryen* 52.—The voyage from Cape Clear to Liverpool in thick weather, especially if the position of the vessel be not verified by sight of land or coast lights, unavoidably attended with considerable anxiety and risk, *Bedford*, 92.—The "America," a transatlantic packet-ship, recently on shore on the coast of Cork, an example of the dangers of this navigation, *ib.* 92.—The superior quickness and safety of transit, and the short sea route, would, with the better class of passengers, always be preferred, *Quinlivan*, 42.—The transfer of all the continental traffic through Great Britain and Ireland would result from the short sea voyage, and the transfer to a western port, *ib.* 43.—In proof of the dangers of the Channel navigation, the present charge for insurance is as much between Liverpool and Galway as any other Irish port on the west or south-west coast, *Perry*, 153.—The feeling in the United States strongly in favour of shortening the sea voyage, *Archibald*, 167.—One-half the danger, and one-third of the voyage, considered over when off Ireland, and on coming from America the desire of passengers to land in Ireland is very general, *ib* 168.—The regularity and shortness of the sea voyage would attract vast numbers, *Monteagle*, 189.

3 *Saving of Expense.*—The saving to the shipowner in wear and tear, insurance, fuel, and general working expenses, calculated at 18 per cent., *Quinlivan*, 42.—The diminished cost of the short sea voyage would lessen the cost to the several parties, and the passage-money likewise, *Belfast Chamber of Commerce*, 46.—There would be a considerable diminution of expense, *Murphy*, 120.—The expenditure for coal between Liverpool and Cork amounts to between 500*l.* and 600*l.*, *ib.* 120.—The saving of insurance would be very considerable, *Perry*, 153.—Mail-steamers, starting from Liverpool, pay 62*l.* on each voyage for 23 lighthouses, but if they started from the west of Ireland they would only pay for two or three lighthouses, *Knight of Kerry*, 165.—The saving to passengers would not be less than ten per cent., after covering the expense of the overland journey, *Quinlivan*, 42.—The saving in coal, and the additional room for freight, would exceed the cost of the conveyance of goods from Liverpool to Galway, *Perry*, 155.—Government would save 25 per cent. in conveyance of mails, *Quinlivan*, 42.—Saving in expenses by making Cork the packet station, 580*l.* a voyage, *Shea*, 49.—This saving effected by decreased cost and consumption of coal, in dock dues, in maintenance of passengers, insurance, and light and tonnage dues, *ib.* 49.

4. *Commercial Advantages.*—Thinks that Manchester and other manufacturing towns in England would be materially benefited by shortening the passage across the Atlantic, *Marmion*, 37.—These towns would be benefited by the communication of earlier intelligence, and by the transmission more expeditiously of valuable goods, *ib.* 37.—Belfast, Glasgow, and the manufacturing districts in the north of Ireland, would be benefited by the transfer, *ib.* 37.—Advantages of earlier intelligence in respect of payment of accounts specified, *ib.* 37; *Kennedy*, 46.—The trade of Belfast would be greatly benefited by making Galway a packet station, *ib.* 46; *Belfast Chamber of Commerce*, 46.—The passengers', and much of the goods' traffic, by the competing lines, would be diverted to the Galway route, on account of its superior advantages, *Galway Committee*, 45.—Believes that if steamboats were to run from the westernmost point in Ireland, a great number of commercial persons would prefer the route *viâ* Galway or Cork, in preference to Liverpool, *M'Cullagh*, 112.—Travellers from the continent especially would prefer the shorter passage, *ib.* 112; *Monteagle*, 142.—The transmission of intelligence in the speediest manner much desired by the Americans, *Gregory*, 113.—Mr. Pinday, the Government Agent in New Brunswick, asserts that there is but one feeling on the part of the British North American Colonies and the United States on this subject, and that all are in favour of the short sea passage, *Monteagle*, 113; *Daly*, 113.

5. *National Advantages.*—The establishment of a rapid communication between England and the British North American Colonies, in reference to the relief of troops, &c., a matter of very great practical importance, *Monteagle*, 112, 189.—Opinions of the late Duke of York, the Duke of Wellington, Lord Liverpool, Lord Harrowby, Mr. Canning, Mr. Peel, &c., on this subject, *ib.* 188.—It is difficult to exaggerate the advantages derivable to Ireland and Canada from being made the starting point for frequent and periodical transatlantic voyages, *Fitzgerald*, 260.

III. Disadvantages, &c.:—

1. *Increased Expenses.*—The expense to all the parties and interests concerned would be greatly increased, *Glasgow Chamber of Commerce*, 47; *Caffin*, 11; *Bevis*, 40.—Thinks the Government could not sanction the transfer consistent with that economy with which it is necessary the Post-office should be managed, *Maberly*, 142.—The packets can only be supported by passengers and goods, the Government making up the difference; if compelled to start from a port, where these could not be had, the Government would necessarily have so much more to pay for the conveyance of the mails, *ib.* 142.—The transfer would be attended with considerable inconvenience and expense, *Brunel*, 149.—The increased expenses would be very considerable, equal to doubling the number of British packets from Liverpool, *Hill*, 206.—Passengers would not incur the additional expenses of travelling through Ireland while they could embark or land at Liverpool, *Moore*, 210; *Chamber of Commerce, Southampton*, 224.—The contract price to Government for conveyance of the mails would probably be increased by 50,000*l.* a-year, *Horsfall*, 40.—The expense to Government would be considerably increased, as the change would reduce the number of passengers and the cargo, *Bevis*, 40; *Aylen*, 40.—The contract price with Government for carrying the mails would be increased, *Glasgow Chamber of Commerce*, 47; *Forth*, 54.—To Cork, Galway, or Limerick, by using the railways, the increased expense would be trifling, but to Borehaven, Crookhaven, or Valentia, the increased expense would be considerable, *P. O.*, 104.—Thinks the loss would be greater than the Government could compensate, *Caffin*, 13.—Could not possibly ask the Government to grant a sum adequate to the loss which would be sustained by the transfer, *Cunard*, 125.—If the Government fixed the packet station where neither passengers nor freight could be obtained, the contractors would require compensation or a higher rate of payment for the conveyance of the mails, *ib.* 125; *Maberly*, 142.—The loss of passengers and cargo would have to be compensated by increased cost for the conveyance of mails, *Trustees of Liverpool Docks*, 208.—It would occasion the necessity of a largely increased payment for the steamers now employed to convey the mails, *Chamber of Commerce, Southampton*, 224.—The passage-money would be increased, because the number of passengers would be less than by the present route, *Horsfall*, 40; *Bevis*, 40; *Aylen*, 40; *Vanwart*, 53; *Firth*, 54.—The expenses attending the transfer of passengers, their luggage, and cargo overland to Dublin, reshipping to Liverpool, and transhipment there, would be equivalent in wear and tear to two voyages between New York and Liverpool by the present easy mode, *Belcher*, 31; *Moore*, 210.—Goods could not be sent by railway to Holyhead, thence by steamer to Dublin, and thence by rail to Galway, except at greater expense and trouble than under the present system, *Chamber of Commerce, Southampton*, 224.—The proposed change would involve at least three changes of conveyance, some hun-

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Transatlantic Packet Station—*continued.*
dreds of miles additional distance, more costly management, and additional expenses, compared with Liverpool or Southampton, *ib.* 224.—The working expenses of the ships would be enormously increased, *Coffin*, 11.—Repairs would cost much more than at present, whether done at the port or in England, *Belcher*, 31.—Coal would cost about 7*s.* a ton more than at Liverpool, *Church*, p. 18; *Belcher*, 31.—The expenses from a port on the west of Ireland would be greater than from Liverpool, *Lloyd*, 162.

2. *Loss of Passengers and Freight.*—The greater portion of the passengers and goods traffic would be diverted to the direct American packets, *Glasgow Chamber of Commerce*, 47.—*Washington*, 129; *Coffin*, 11; *Bevis*, 40; *Horsfall*, 40; *Aylen*, 41; *Moore*, 208; *Belcher*, 32; *Cunard*, 124.—The direct steamers between Liverpool and the United States would take all the goods, the whole of the first-class, and nearly all the second-class passengers, *Vanwart*, 53.—Any steamer running from an English port would deprive the other of passengers and cargo, *Brunel*, 151.—No passenger would cross to the western coast of Ireland when he could go on board at Liverpool without further trouble, *Coffin*, 11.—If the British packets are transferred to Ireland, the American packets from Liverpool will enjoy the entire carriage of passengers and freight, *Belcher*, 32.—The removal would benefit the rival line, *Maxwell*, 216.—The removal of the British packets from Liverpool, while the American packets retained this port as a port of arrival and departure, would be nationally highly detrimental, *ib.* 216.—It would operate as an enormous bounty in favour of Collins's line, *ib.* 216.—Merchants would not avail themselves of the new route while the American packets went direct from Liverpool. *Manchester Chamber of Commerce*, 47; *Moore*, 209, —The American steamers would get all the traffic, *Cunard*, 124; *Maberly*, 142.—The freight would be wholly lost, and would pass over to the American steamers, *Cunard*, 124.—Should lose passengers as well as freight by the transfer, *ib.* 125; *Evans*, 135. Freight a large item in the earnings of the American mail packets, *Cunard*, 124.—No man would subject his goods to be shipped and re-shipped, and sent across the country by railway, *ib.* 125.—Goods as liable to damage by transit on the different railroads, and by crossing the Channel, as they would be in crossing the Atlantic, *ib.* 125.—Thinks it would not be convenient for the majority of passengers to embark and disembark at Galway, or any other Irish port, *Hill*, 138.—As respects goods, the transfer would be very undesirable, *ib.* 138.—The transfer would be injurious as respects both passengers and goods, *ib.* 141.—The damage sustained from the number of shifts goods would be subject to would ruin the trade, *Coffin*, 11; *Glasgow Chamber of Commerce*, 47.—Cannot anticipate that passengers would submit to the evils and annoyances of so many changes, *Manchester Chamber of Commerce*, 47; *Washington*, 129.—129.—Very few, if any, passengers would go by the new route, *Vanwart*, 53.—Thinks 80 per cent. of the passengers would be deterred from availing themselves of the new route if the alternation of a direct departure were open to them, on account of the additional trouble, anxiety, and risk of loss, *Firth*, 53.—Does not think 5 per cent. of the English merchandize would be secured to the new route, *ib.* 53.—The class of passengers likely to avail themselves of the new route would be limited to those who might have special reasons for urgency, *ib* 54.—None would subject themselves to the inconveniences of proceeding by a British packet unless compelled by necessity, *Belcher*, 31.—Few passengers except those from Ireland would avail themselves of the new route, *Bevis*, 40.—The packets from Ireland would have little else than letters to carry, *Manchester Chamber of Commerce*, 48.—Their only passengers would be Irishmen from Ireland, *Brunel*, 151.—Even passengers from Dublin or Belfast would find it more convenient to embark at Liverpool, *Bevis*, 40.—Goods now sent by steamers would be sent in sailing-vessels direct from Liverpool rather than incur the risks of transhipments, *Belcher*, 31.—All goods would be shipped from Liverpool as at present, *Bevis*, 40.—The facilities and advantages to passengers would be greatly diminished by the additional fatigue, discomfort, and inconvenience entailed by the change, *Glasgow Chamber of Commerce*, 47.—If 12 hours were saved, it would not compensate for the inconvenience and expenses caused by the change, *Cunard*, 125.—The saving of time not an object to the majority of passengers, *ib.* 125; *Moore*, 211.—Doubts whether any of the passengers would avail themselves of the new route through Ireland on account of the difficulties connected with their luggage, *Chapman*, 218.—The removal of the steamers to Galway or any port on the west coast of Ireland would deprive them of the goods traffic outwards and homewards, *Chamber of Commerce, Southampton*, 224.—They would be deprived both of passengers and goods, and the cost of carrying the mails would fall upon the public purse, as in the days of the Falmouth packets, *ib.* 225.—The disadvantages of the transfer consist solely in the probable loss of full and profitable cargoes, *Marmon*, 34.—Does not think passengers would complain of the transit through Ireland, *Mulvany*, 188.

3. *Want of Means for Repairs of Vessels, Machinery, &c.*—The ports in Ireland afford no facilities, as coal docks, foundries, &c., necessary for carrying on so large a concern as the North American Mail Establishment, *Coffin*, 11; *Cunard*, 126.—All the harbours on the south-west coast of Ireland without graving dock and landing pier, *Washington*, 132.—The 80 ton revenue cutter stationed at Galway usually sent every year to Cork to be repaired, and the 60 ton revenue cutter stationed in the Shannon has usually been sent to Dublin or Cork for the same purpose, *Hagan*, 24.—Admits that the western ports do not possess the requisite facilities for repairs, but asserts that Cork possesses every facility required, *ib.* 24.—The objections to an Irish packet station on the score of want of means for repair of machinery, &c., not tenable, *Mallett*, 329.—Nothing short of a complete establishment equal to Woolwich in point of dock entrance (64 feet at paddle-box) or Liverpool would suffice for the necessary repairs, *Belcher*, 31.—The vicinity of large engineering establishments essential to the efficiency of the transatlantic packet service, *Cunard*, 126.—Such establishments being of progressive growth, could not easily be formed in Ireland, *ib.* 126.—They might be formed in time, consequent upon the establishment of the packet station; but it would be many years before they arrived at the perfection necessary for the repairs of large steam ships, *ib.* 126.—Thinks a very small manufactory would be sufficient to do all the repairs required at a western port, *Lloyd*, 161.—The ports in Ireland, even if they were approachable at all times and seasons, would be of no use until dry docks and wet docks are constructed of the largest size, *Cunard*, 129.—These docks would cost an enormous sum, and could only be maintained by a very extended commerce, *ib.* 129.—Engineering establishments upon an equally large scale also necessary before the mail steamers could resort to these harbours, *ib.* 129.—There is no dock in any port in Ireland large enough to receive vessels of the size of the transatlantic steamers, *Washington*, 130.—Docks of the size required for the American steamers, not being required for sailing vessels, cannot be expected to be formed without a certainty of the port being adopted for the packet station, *Perry*, 156.—If this were determined upon, docks of the necessary size would be provided with great dispatch, *ib.* 156.—Does not consider a dry dock necessary at a packet station, *Lloyd*, 161.—Does not consider a dry dock at all essential to a packet; it would be convenient, but not absolutely necessary, *ib.* 169.—The service would not be interrupted from the want of a dry dock, *ib.* 159.—None of the ports in Ireland afford the necessary accommodation for repairs of vessels or machinery, or for loading or discharging cargo, and to provide all these conveniences would involve an enormous expense, and take several years to complete, *Trustees of Liverpool Docks*, 208.

4. *Commercial Disadvantages.*—The removal of the transatlantic packet station to a port on the west coast of Ireland would inflict an injury on the trade of England and Scotland without conferring any corresponding benefit on Ireland, *Glasgow Chamber of Commerce*, 47.—The disadvantages which would arise from the transfer would greatly outweigh any advantage which could be derived from such a measure, *Manchester Chamber of Commerce*, 47; *Firth*, 53.

5. *Nautical Difficulties and consequent Irregularities in the Delivery of Mails, &c.*—The risk of

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Transatlantic Packet Station—*continued.*
running for such a coast as the west of Ireland would prevent the mails from being delivered with such punctuality as at present, *Risk*, 21.—The prevalence of fogs in winter must make the delivery of the mails very uncertain, *Kemble*, 26.—Does not think that any of the ports on the south and west coast of Ireland offer facilities for regular departure and arrival of the mails, *Belcher*, 30.—No one would venture to run into any of the western ports in a south-west gale in thick weather or at night, *Cunard*, 129.—It is impossible to enter these harbours in a south-west gale at night in thick weather with the British mail packets drawing 21 and 22 feet of water, *Cunard*, 129.—Does not consider soundings to be a correct guide for Galway or the Shannon, *Carter*, 241.—With imperfect reckoning, the prevailing swell, frequent fogs, and the short days of winter, it would be hazardous for a steamship to run for Galway, particularly as Slyne Head cannot be approached in thick weather, *ib.* 241.—Extract from the sailing directions, describing the rollers on the coasts of Mayo and Galway, *Mudge*, 240; *Frazer*, 240.—Breakers are numerous on this coast in 12 fathoms, *Carter*, 240.—The rollers on the coast as formidable as any seen between the tropics, *ib.* 240.—It breaks within half a mile off Faunet Point in 14 or 15 fathoms water, and any vessel getting into them would be destroyed, *ib.* 240.—These rollers generally attributed to heavy gales on the western ocean, and are sent home to the coast by gales even from a distance of 800 or 900 miles, *ib.* 241.—The approach of such an extent of coast as that of Ireland, with the possibility of its becoming a lee shore, always dangerous, *Belcher*, 30.—To make for any western port dangerous, owing to the prevalence of westerly winds and lee shore exposed to the full sweep of the tempestuous waves and broken seas of the Atlantic, *Shea*, 51.—The navigation of the west coast very dangerous; a heavy sea, breaking at great depths, the gales violent and lasting, soundings so irregular as to be useless, and thick weather very prevalent, *Plunkett*, 56.—Could not without hazard run in a dark or hazy night in winter into Galway, the Shannon, Valentia, Bantry Bay, or Long Island, *ib.* 58.—Would run for Galway when he would not run for either of the other ports, *Bedford*, 56.—Prefers Galway even to Cork, on account of the entrance, *ib.* 56.—The western ports all dangerous to run for in winter on account of the heavy sea and fogs, *Lowe*, 57; *Fisher*, 57.—These ports particularly dangerous to strangers, it being a lee shore, *Driver*, 58.—The navigation of the west coast dangerous in the winter season, on account of the heavy gales and thick weather, *Laen*, 58.—Some parts of the west coast extremely hazardous in winter time, *Dunlop*, 59.—There is no danger in a powerful steam-ship with her machinery in good order, *Wingrove*, 60.—The navigation of the west coast hazardous in winter, owing to the prevalence of W. and S.W. gales, heavy seas, and frequent fogs, *Brown*, 60, 61.—Does not consider it safe in southerly or south-westerly gales to approach the south-western angle of Ireland at all; more especially if the customary swell from the Bay of Biscay prevailed, *Belcher*, 30.—Considers the west coast very dangerous and very hazardous in the winter season, *Aylen*, 62.—From the prevalence of westerly winds it is a lee shore the greater part of the year, *ib.* 62.—A very dangerous coast, *Caffin*, 63; *Church*, 64.—It is sufficiently dangerous to require great caution and a good look out, *Ladd*, 66.—It is especially dangerous to those vessels which, to ensure punctuality and dispatch, are obliged to run for their ports under every circumstance of weather, *Risk*, 67.—If the port were missed, the risk to the machinery in getting off land again would be great, and if the machinery failed, the total loss of the vessel would be inevitable, *ib.* 67.—The west coast not much more dangerous than the west coast of England; the fogs, however, are frequent, and soundings of little value, *Smith*, 68.—For a steam vessel it is not more dangerous than other coasts, but it is disagreeable on account of the heavy sea occasioned by the prevalent west winds, *Turnour*, 69.—It is proverbially dangerous in the winter season, *Carter*, 70; *Kelly*, 71.—It is rather hazardous in winter owing to the gales from W.S.W. to N.N.W., *Burke*, 77.—Any coast is dangerous which becomes a lee shore in a gale, *O'Malley*, 78.—The navigation of the west coast is dangerous in winter, on account of the heavy seas and lee shore

Transatlantic Packet Station—*continued.*
in the prevailing winds, *Broad*, 80.—Does not consider there is any risk in a steam vessel with sufficient power to make head way, *ib.* 80.—The west coast very dangerous in winter owing to the heavy seas rolling in from the Atlantic, and prevalence of thick weather, *Goldsmith*, 81.—Does not consider it either dangerous or hazardous to those who have a knowledge of the coast, *Brown*, 81; *Smith*, 79.—It is dangerous for sailing vessels, *Hutchinson*, 82.—It is a rocky iron-bound coast, and very dangerous from the heavy sea, *Jones*, 83.—It is dangerous on account of the great prevalence of fogs and westerly gales, *Hamley*, 83.—Knows no part of the coast more hazardous than the navigation of the western coast of Ireland in the winter season, *Irwin*, 6; *Cragg*, 85.—In common with most seamen, believes the west coast a very dangerous one in winter, *Hagan*, 86; *Rose*, 87.—It would not be prudent with damaged machinery to run at night either for Cork or any of the western harbours, *Lowe*, 57; *Fisher*, 57.—Would run to Cork for repairs, but to none of the others, *Driver*, 58.—Would prefer Galway to Cork with a disabled vessel, *Bedford*, 57.—Would not run for any of the ports at night with damaged machinery, *Lowe*, 57; *Fisher*, 57.—It would not be prudent to do so without clear weather, *Laen*, 59.—Should not consider it prudent to run for any of the ports with damaged machinery by night in bad weather, *Brown*, 61.—Under such circumstances, would run for Cork, but not for either of the other ports, *Aylen*, 62; *Caffin*, 63; *Church*, 65; *Risk*, 67; *Bower*, 67.—Would prefer laying too 'till day-light, *Turnour*, 69.—No seaman would run in of a dark night unless he had picked up a landmark or light, *Goss*, 69.—With damaged machinery it would be dangerous, and would not attempt it at all in hazy weather, *ib.* 69.—Should not run fearlessly without having made land or light, and made sure of the position, *Kelly*, 71.—With damaged machinery should, if possible, take an offing till day-light; if not, should run for Cork, *ib.* 71.—Should keep at sea until an observation had been made, and then proceed with great caution, *Pearce*, 72.—If the vessel were manageable under canvas, should not run for any of the ports until quite certain of its position, *Burke*, 77; *Broad*, 80.—With damaged machinery, would not run for any of these ports at night, *Goldsmith*, 81.—If doubtful of position, would under no circumstance run for any of these harbours, *Irwin*, 85.—With damaged machinery it would be the height of imprudence to do so, *ib.* 85.—It would be an act of temerity unless the night was clear and fine to run for any port on the western coast, *Hagan*, 86; *Rose*, 87.—Should not deem it safe to risk vessels of the class of transatlantic steamers, if in doubt of position, by approaching the coast of Ireland between Galway and Cape Clear, *Belcher*, 30; 170.—In the homeward voyage, as a measure of precaution, Cape Clear should be first made, and the course to a western port would then be along an iron-bound coast exposed to the full sweep of the Atlantic, and on a lee shore, *Shea*, 51.—In many cases the packet would be compelled to seek some other port than the one determined, *Belcher*, 169.—The prevalence of fogs, doubtful soundings, and the impossibility of delay make the approach, especially if light or short of coal, dangerous in hazy weather, *ib.* 30.—The homeward voyage would be very irregular, from the difficulty of making the coast, on account of fogs, *Caffin*, 13.—The mails could not be landed with regularity on the west coast of Ireland, *Belcher*, 172.—The departure from and approach to the west coast of Ireland frequently unsafe in the winter season, *Chamber of Commerce, Southampton*, 225.—There might be no danger in standing for the land if clearly made out even with a following sea, but great danger of damaging the machinery if compelled to change the course of the vessel, *Belcher*, 30; 170.—Difficulty of taking soundings with a heavy following sea, and great risk of damage to machinery by "rounding to," *ib.* 170.—Does not think there is greater danger in heaving to to sound off the western coast than in the Channel, *Robinson*, 176.—Pilots cannot be got at any of the ports without great difficulty, and are not to be trusted when obtained, *Caffin*, 12.—A vessel compelled to leave a port on the western coast in the teeth of a heavy gale from the westward might be many days without making much progress, *Belcher*, 32.—Case of the Atlantic described which churned for three

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Transatlantic Packet Station—*continued.*
days without progressing, and, after an expenditure of 1,900 tons of coal, was compelled to put into Newhaven to replenish, *ib.* 32.—An accident to the machinery under such circumstances, with Ireland dead under her lee, would have been fatal, *ib.* 32.—Is of opinion that the precautions which a careful mariner would take in approaching the coast incompatible with the celerity required from a steamer having mails on board, *Denham*, 146.—Nature of the necessary precautions described, *ib.* 146.—When off this coast upon the survey, it was with the utmost anxiety witness ran in thick weather for any of the ports between Ventry and Crookhaven, *ib.* 147.—Prefers the west coast of Ireland from Cape Clear round to any other part of the coast of the United Kingdom, *Randall*, 194.—Thinks the Shannon safer to run for than any port in England, *ib.* 194.

IV. Evidence in respect of particular Ports:—
Berehaven (*See* Berehaven).
Cork (*See* Cork).
Crookhaven (*See* Crookhaven).
Dunmanus Bay (*See* Dunmanus Bay).
Foynes (*See* Foynes).
Galway (*See* Galway).
Limerick (*See* Limerick).
Long Island Channel (*See* Long Island Channel).
Tarbert (*See* Tarbert).
Valentia (*See* Valentia).

Transhipment:—
Inconvenience of in respect of Passengers.—No passengers from England would take their passage to America from an Irish port while they could go on board at Liverpool, *Caffin*, 11.—Statement showing the number of interruptions and shifts in landing at Galway, and travelling through Ireland to Liverpool *via* Holyhead, *Moore*, 209.
Inconvenience of in respect of Goods.—The expense of transit from Liverpool to an Irish port, and the damage to goods by the number of shifts, would ruin the trade between Liverpool and America, *Caffin*, 11.—Goods more likely to be damaged by changes of conveyance than if sent direct, *ib.* 12.

United States Mail Steam Ship Company:—
Between New York and Liverpool (Collins's line).—(*See* United States Mail Steam Packets).

United States Mail Steam Packets:—
The American Government support three lines of steam packets, and pay 20,000*l.* a-year more for the conveyance of mails than is paid by the British Government for the Liverpool packets, *Cunard*, 124.—The three lines are between New York and Liverpool, New York and Bremen, calling each way at Southampton with the mails, and New York and Havre, also calling at Southampton, receiving and delivering mails, *ib.* 124.—These vessels intended to keep up a weekly communication, but they have not done so yet regularly, *ib.* 124.—The vessels of Collins's line very much larger than those of Cunard's line, *Littledale*, 204.—Collins's line supported entirely by American capital, *Maxwell*, 221.—Return of the number and names of Collins's line of packets, showing their tonnage, power, size, times of sailing, and rates of freight and passage, *ib* 244.—The United States packets leave Liverpool every fortnight, and proceed to New York direct, *Maberly*, 88.—These vessels would be materially benefited by the removal of the British packets to a station in Ireland, *Caffin*, 12.—They would then take the whole of the freight from Liverpool, as no merchant would incur the expense and risk of transhipment and conveyance through Ireland when he could send his goods direct, *ib.* 12.—They would also take the passenger as well as the goods' traffic, *ib.* 12; *Glasgow Chamber of Commerce*, 47.—The New York, Southampton, and Bremen line consists of two paddle steamers, both American, viz, the "Washington" and "Herman," of 1830 tons, and 600 horse-power each, *Powell*, 246.—These vessels leave Southampton and New York monthly; their draft of water is 18½ feet light, and 22½ feet laden, *ib.* 246.—Statement of their charges for passengers and freight, *ib.* 246.—385,000 dollars (80,208*l.*) paid by the Government of the United States for the conveyance of the mails for Collins's line, 200,000 dollars (41,666*l.*) for the line between New York and Bremen, and 150,000 dollars (31,250) for that between New York and Havre, *Rep.* 9.

Valentia:—I. Description of:—
1. *Generally.*—This harbour is 7 miles long and half a mile wide at low water: it is completely landlocked, and far to windward, and westerly winds prevail, *Quadling*, 24.—An excellent harbour and well sheltered from all winds, *Lowe*, 57.—An excellent and well-sheltered harbour, *Randall*, 74.—An excellent harbour when once inside, with the advantage of being the most western port in Ireland, but difficult to make, *Washington*, 132.—The interior of the harbour is well adapted to the largest steamers, and the holding-ground is good, *Church*, 15.—The chief entrance (the northern) not more than 450 feet wide at low-water springs, or little more than half the width of the entrance of Kingstown, *Washington*, 132.
2. *Lights and Headlands.*—The approach from the ocean is well marked by the Skelligs, Lemon Rock, and Puffin Island, and on rounding Bray Head the openings of the harbour are made conspicuous and unmistakeable by Dulous Head, Beginnish Island, and the lighthouse on Cromwell's Fort Point, *Church*, 15; *Quadling*, 24.—The Skelligs and the Blaskets are both free from outlying dangers, and both may be boldly run for in making Valentia, *Wolfe*, 257.—The Skelig lights would be first sighted, and after rounding Bray Head, and opening the entrance of Valentia, the light at Cromwell's Point comes into view, *Church*, 15.—A vessel homeward bound would make the Skelligs though liable to be driven to the Blaskets, and even further to the northward in thick weather by a current setting to the northward, and the heavy sea caused by southerly winds, *Quadling*, 25. The Skelig Rocks a great advantage to the harbour as leading marks, *Knight of Kerry*, 166; *Wolfe*, 257.
3. *Rocks and Shoals.*—In entering with an ebb tide vessels are in danger of going on the rocks, from the tide catching them on either bow, *Rish*, 21.—The northern entrance has a sunken rock about one-third across the channel, *Quadling*, 24.—The western entrance has a rock in the centre, *ib.* 25.—The Lough Kay, or second northern entrance, is encumbered with rocks which could not be removed but at great expense, and would not then be taken except in extreme cases, *ib.* 25.
4. *Anchorage Ground.*—The capacity of this harbour more than sufficient for all the packets that would be required, *Wolfe*, 257, *Fitzgerald*, 259.—The facilities for landing and embarking passengers would have all to be created at Renard Point, the proposed terminus for the railway, *Quadling*, 28.—The mails could be landed at all times, *Rish*, 20.—The holding-ground is good, being mud and sand, *Wolfe*, 257; *Fitzgerald*, 259, *Quadling*, 24.—The shelter is unsurpassed in any harbour, *Wolfe*, 257; *Fitzgerald*, 259.—The anchorage is very good and smooth, *Church*, 17; *Quadling*, 24. It is completely landlocked, *ib.* 24.—The pier is fit only for coasters, and these lie aground at half-tide, *Church*, 17.—A breakwater has just been finished and the pier extended to 320 feet, with 8 feet of water at the pier-head at low water, *Quadling*, 25.—The breakwater is 380 feet long, *ib.* 25.
5. *Docks, Wharves, &c.*—There are no docks, *Knight of Kerry*, 167; *Rish*, 21.—The pier is not fit for a vessel of 20 feet draft.
6. *Repairs of Machinery, &c.*—No repairs to machinery or vessels could be done at this port, *Church*, 17.—There are no conveniences for repairs and maintenance of packets, their engines, boilers, &c., *Rish*, 21.—There is no storage accommodation at present, *Church*, 17.—Supplies of fresh provisions of all kinds could be readily procured, but water in large quantities could not be quickly obtained, *ib.* 17.
7. *Price of Coal, &c.*—Welsh coal 15*s.* a ton, *Church*, 18.—Freight of coal from Cardiff to Valentia 6*s.* a ton, *ib.* 18.—Little or no coal to be obtained at any price, *Rish*, 21.—Turf generally used for fuel instead of coal, *Church*, 17.—Cargoes of coal occasionally come in for the steam-engines belonging to the slate-quarries, *ib.* 17.
8. *Inland Communications.*—The nearest railroad at present is at Mallow, 70 miles distant, *Washington*, 132.—A railroad is being constructed between Mallow and Killarney, about 35 or 37 English miles from Valentia, *Knight of Kerry*, 167.—The extension to Valentia now before Parliament, *ib.* 167.—If Valentia were made a packet station, the railway would be immediately made, *ib.* 167.—The country is mountainous and rugged, and unfavour-

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VALENTIA—Description of, *continued.*
able to the construction of railroads, *Church*, 18.—The mail or hired car at present the only means of travelling from Valentia towards the interior, *ib.* 18.—There is a little trade caused by the slate quarry, at which about 300 men are employed, *ib.* 18.—The night mail leaves London at 8 P.M., and arrives at Valentia at 6·10 P.M. the next day but one, *Maberly*, 87.—It leaves Valentia at 5·50 A.M., and arrives in London at 5·18 A.M on the next morning but one, 88

9. *Pilotage*.—There are some men calling themselves pilots at Beginnish Island, on the east side of Valentia entrance, who keep a look-out from land for the approach of vessels, *Church*, 18.

II. ITS ADVANTAGES FOR A PACKET STATION:—
Its geographical position a strong point in its favour, *Knight of Kerry*, 165.—It is placed at the very spot where the most experienced naval skill would have wished for a harbour had none existed, *Fitzgerald*, 259.—This the nearest Irish port to the American Continent, *Bedford*, 10; *Quadling*, 24.—It is distant 2,123 miles from Halifax, being 32 miles less than the route from Galway, *Bedford*, 10.—It is the most secure harbour when in, and the mails could be landed at all times, *Risk*, 20.—Opinions of eminent men in favour of Valentia as a packet station, *Fitzgerald*, 262.—It has the advantage over a channel port, in saving fuel and wear and tear, and in being almost immediately at sea in clearing the harbour, *Quadling*, 24. It has the further advantage of a saving of distance and the avoidance of the dangers of Channel navigation, *ib.* 24.—Valentia a most excellent harbour; should prefer it to any other on the north-west coast of Ireland as a packet station, *Driver*, 58.—Would run for it day or night, if the land could be made out at all, *ib.* 58.—Valentia examined, and favourably reported on by a Commissioner appointed by the Corporation of New York, *Archibald*, 168.—This preference probably on account of its being the nearest port to America, *ib.* 168.—Valentia the most westerly harbour of Europe, only 2,400 miles from Halifax, *Fitzgerald*, 258.—If not used for passengers, it should be used as a port of call for the mails, *ib.* 259.—If it is possible for vessel to lie at sea, she can leave Valentia at a moment's notice, *ib.* 259.—Clear of the harbour, the vessel is at sea, at once disentangled from lee shores and steering direct for Halifax, *ib.* 259.—The advantages of Valentia superior to the ports in the Shannon or Galway, *ib.* 259.—The narrowness of the entrance which has been objected to contributes to its security, *ib.* 289.—The narrows being merely points of land, no inconvenience would be experienced by steamers, and no great difficulties for sailing vessels, *ib.* 259.—By means of the electric telegraph, intelligence from Halifax might reach Downing-street in seven days, *ib.* 259.—Opinions of eminent men in favour of Valentia; viz, the Duke of York, Sir Pulteney Malcolm, and Sir Henry Blackwood, in 1824, as the most suitable harbour for colonial intercourse; MacGregor—that a communication between Valentia and Halifax was highly important to the mother-country and the colonies; Messrs. Cruger and Goodhue, deputation from New York, as the best harbour for a packet station; Cobden, in his pamphlet, "England, Ireland, and America," notes the prevailing feeling in the United States in favour of Valentia as a packet station, and agrees entirely in that opinion; Sir Robert Otway in his printed letter, of the same opinion: Cubitt recommended the construction of a line of railway from Dublin to Valentia, to obtain American traffic; Vignoles states that Valentia is a port which nautical men, statesmen, and engineers have, without connexion or communication with each other, recommended as the most eligible harbour for the foreign arrivals and departures of the United Kingdom, *ib.* 262.—Opinions of certain foreigners all in favour of Valentia as a western port, *ib.* 262.

III. ITS DISADVANTAGES FOR A PACKET STATION:—
Is decidedly against its being chosen for a packet station, *Aylen*, 41.—Is dangerous to run for at night or in thick weather, *Plunkett*, 56.—It is not fit for a packet station, *Laen*, 58.—Should not like to run a large steam vessel in at night, *Dunlop*, 59; *Bower*, 67; *Turnour*, 68.—It is a blind harbour, *Hagan*, 86.—A very small harbour, and quite unfit for large steamers, *Thomas*, 222.—Would be sorry

VALENTIA—Its Disadvantages, &c., *continued.*
to run a steamer into this port in a gale from the westward, on account of the narrowness of its entrance, *Washington*, 132.—Would not run for Valentia in a breeze with a vessel of the size of the transatlantic steamers, *Evans*, 134.—Has piloted war steamers into Valentia, which in certain winds is so dangerous that it would not be safe to enter, *McDonogh*, 277.—Its disadvantages are the narrowness and rock of the northern entrance, the heavy sea which breaks across it in north-west gales, the prevalence of fog during the greater part of the year, and the difficulty of obtaining supplies, *Quadling*, 24.—The entrance is so narrow that some nautical men term it a blind harbour, *Marmion*, 34.—Does not think any person, if he had a choice, would be justified in running for so narrow and dangerous an entrance in bad weather, *Aylen*, 41.—Several vessels have been lost in taking this harbour at night; it is unfit for a packet station, *ib.* 62.—This harbour so narrow and beset with shoals, and so much exposed to the waves, that it is extremely dangerous for a vessel of any kind to attempt an entrance during a north-westerly or westerly gale, *Bedford*, 10.—The risk of making for such a place directly from the ocean far too great to be compensated by its interior excellencies, *ib.* 11.—It is ineligible even for steamers, and totally unfit for a harbour of refuge, or of traffic on an extensive scale, *ib.* 11.—Its greater distance from Dublin than Galway, a difference of 86 miles, counterbalances the advantages of a shorter distance across the Atlantic, *ib.* 11.—The entrance is so narrow as to be quite unfit for a large ship or steamer, *Ladd*, 66.—In gales from the westward the entrance to the harbour is a perfect mass of breakers, which renders vessels quite unmanageable, and has been the loss of several with their crews, *Risk*, 21.—Dangerous situation of vessel if the port be missed, and an attempt made to get out of the bay, *ib.* 21.—The harbour is too small, the entrance very narrow and difficult to make in stormy weather at night, *Hall*, 13.—Doubts whether it would be quite safe to run for at night and in bad weather, *Church*, 15.—It is inferior to Berehaven from the narrowness of its entrance, and the danger of taking it in bad weather; and the bay affords less safety and refuge in case of damage to machinery, &c., than Bantry Bay, *ib.* 15.—The bay is very rough in westerly gales, and the entrance to the harbour at such times a mass of breakers, which renders vessels quite unmanageable, and has caused the loss of several with their crews, *Risk*, 20.—If the port were missed, it would be at great risk to the machinery to get out of the bay; and if the machinery were damaged, the vessel would be lost, as the bay affords no other shelter eastward, *ib.* 21.—It is without docks or railroads, *ib.* 20.—Little or no coals can be obtained at any price, *ib.* 21.—There are no convenience for the repairs of machinery, *ib.* 20.

IV. IMPROVEMENTS AND WORKS REQUIRED:—
Lights, &c.—A small harbour light on the Harbour Rock, and another on the backland of Valentia Island, near the Old Glebe House, to be brought into line on passing the Narrows, would be useful in taking the entrance at night, *Church*, 15; *Wolfe*, 257.—The light on Cromwell's Point should be subdued in the direction across the entrance, *Wolfe*, 257.—The rock inside the entrance between the Peril Rock and Beginnish Island a little to the eastward of the fairway, should be buoyed, *Church*, 15.—Three buoys are wanted, one at the Clough-a-Vallig at the entrance, one at the Fourteen Foot Rock, and one at the Foot Rock, *Wolfe*, 257.

Docks, Wharves, &c.—The low ground in Valentia affords every convenience for the erection of wharves, docks, and warehouses, *Quadling*, 25.—If used as a packet station, a landing pier and a graving dock must be constructed, *Washington*, 132.—The rock in the northern entrance should be blasted, and between the rock in the centre of the southern channel and the channel itself would have to be deepened and buoyed, *Quadling*, 25.—The width of the entrance can be increased, if it should be considered necessary, one-half more at a trifling expense, *Fitzgerald*, 259.

Washington, Captain John, R.N., F.R.S. (Analysis of his Evidence):—In giving evidence respecting the comparative advantages of the several ports in Ireland for a Packet Station, desires to mark the distinction between a port of call and a permanent Packet Station, 129.—Has steamed in a Govern-

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Washington, Captain, R.N.—continued.
ment steamer into the harbours of Cork, Kinsale, Crookhaven, Berehaven, and Bantry, along the whole of the south and south-west coast of Ireland, and into Valentia. Has examined also the Shannon at Scattery Road, Tarbert, Foynes, and Limerick; as well as the port of Galway, embarking in boats or steamers on the spot, *ib.*—Does not think, at present, that it would be politic to transfer the permanent Packet Station from Liverpool to any port in Ireland, *ib.*—Thinks such a measure would have the effect of driving passengers into the American steamers that run direct; and that passengers would not be at the trouble and inconvenience of crossing from Holyhead to Dublin, and then re-embarking at any western port, *ib.*—The inconvenience of the transhipment would not be counterbalanced by the saving of a few hours on the whole journey, *ib.*—It would not with respect to general passengers, and still less with respect to goods, *ib.*—Thinks it would be very desirable to have a port of call on the south-west coast of Ireland, for the purpose of taking up the mails, receiving telegraphic messages at the latest minute, and any stray passengers, *ib.*—Cork or Crookhaven would be the best as a port of call, *ib.*—Crookhaven would be very suitable, if the water is sufficiently deep, *ib.*—Long Island Sound is an admirable Harbour of Refuge, and has deep water in it, *ib.*—If Cork were made a port of call it would cause a delay of four hours, and two hours and a-half at Crookhaven, 130.—These delays would include the stoppages to receive passengers and mails, *ib.*—The passage from Liverpool to Cork is 24 hours by steamer, and six hours less from Holyhead, *ib.*—The northern passage now occasionally taken both on the outward and homeward passage, *ib.*—Vessels could not take this passage, and so far it might be disadvantageous to make a southern port the Packet Station, *ib.*—If a permanent Packet Station should be established on the coast of Ireland, should prefer Cork to any of the other ports, *ib.*—Reasons for this preference, *ib.*—Evidence relative to the dock accommodation and facilities for repairs of large steamers at Cork, *ib.*—Haulbowline offers an admirable site for a graving-dock, at a moderate expense, on the Spit Bank, immediately to the eastward of the island, *ib.*—At this place a steamer, drawing 19½ feet water, could get alongside the pier even at low water, *ib.*—She could lie there at springs and neaps; the United States frigate "Macedonian" lay there and discharged her charity cargo of meal, and believes she drew 21 feet water, *ib.*—There is a good range of tide at Cork, 12½ feet on springs, and 9¾ feet on neaps, *ib.*—Objects to Galway, because at present there is no harbour, only a roadstead, and no sufficient floating-dock. The dock at Galway has only 13 feet water over the bar at its entrance now. It is a dock of about seven acres, and has only 14 feet depth of water inside, *ib.*—The ocean steamers would require at least 20 feet, or perhaps more. They could not possibly load in the present floating dock at Galway, *ib.*—Loaded steamers of this class could not get down the channel from Galway, *ib.*—They could not get over the bar at spring tides; nor could they get over the flat which lies between the entrance to the dock and the roadstead, unless at high-water spring tides, and then not without danger, *ib.*—Galway roadstead is not fit for a vessel to lie in and embark goods and passengers, *ib.*—It would require a breakwater to be run out from the south-eastern extremity of Mutton Island, at least 500 yards in length, to afford sufficient shelter in Galway Road, 131.—Description of breakwater recommended by witness, *ib.*—It would cost at least 150,000*l.*, *ib.*—Plymouth Breakwater has already cost 250*l* per lineal foot, and will cost 300*l.* per foot when finished, *ib.*—Witness's objection to Galway as a Transatlantic Packet Station would be removed if a breakwater were made, and a sufficient graving-dock constructed for the repair of large steamers, *ib.*—Galway has the advantage of being only 2,184 nautical miles from Halifax by the shortest route, *ib.*—Nothing can be more facile than to make Galway Bay from seaward; it has an open, bold entrance, about 12 miles wide. By day there are the Arran Islands, 500 feet high, the finest landmark to run for in the world, and the entrance of the bay is on a parallel of latitude, which is always desirable to run for, *ib.*—The light on the top of the Arran Islands would have to be lowered. It stands 506 feet above the level of the sea, is the highest light in the United Kingdom, and one of the slowest revolvers (once in three minutes) of any light on the coasts, *ib.*—These defects would have to be remedied, *ib.*—Fogs not so prevalent on the west coast of Ireland, about Galway, as they are on the south coast of Ireland and in England, but still is very liable to be obscured by fog, *ib.*—The entrance of the Shannon is very good, and easily made. It is nearly nine miles wide, may be run for on a parallel of latitude, and is well marked by the bold headland of Kerry Head, 710 feet high to the south, and Loop Head, 270 feet high to the north, surmounted by a brilliant fixed light by night, *ib.*—A ship may run without difficulty 20 miles up to Tarbert, or even nine miles beyond, up to Foynes, *ib.*—The tides in the Shannon of no consequence to a powerful transatlantic steamer, provided she takes care to avoid the Kilsteen bank, and pays due attention to the admirable Admiralty charts of the Shannon, *ib.*—Tarbert is the highest up roadstead, and would be the nearest to Limerick and Dublin by railway. It is within about 30 miles of Limerick, *ib.*—Scattery is the great roadstead on the north side, close to Kilrush, but it is what sailors term a wild place, *ib.*—Once inside the island, Foynes is an admirable little harbour, and so sheltered from winds as to be equal to a floating dock of 30 acres in extent, with depth for the largest steamers at low water of spring tides; but a strong tide runs through the harbour, *ib.*—The western entrance has but 22 feet depth at low water of ordinary spring tides, and is only 120 yards wide, *ib.*—It would not be prudent to run a large steamer in, blowing hard without dredging. A very little increase of depth would be sufficient, but that little is essential to safety. The landing pier now constructing has only 10 feet depth at the pier head, and will not be sufficient to lay the steamer alongside, *ib.*—In every packet harbour it is imperative that passengers should walk on board and on shore, *ib.*—Barneen Point, on Foynes Island, a spot for a graving-dock and abundance of excellent limestone for building can be easily obtained, *ib.*—Limerick would be out of the question for a packet station, *ib.*—No transatlantic steamer could go within 15 miles of Limerick at low water, *ib.*—They might, however, as at Liverpool, go up after half tide, if there were a floating dock ready to receive them, *ib.*—The navigation of the upper part of the Shannon is intricate for a large steamer, *ib.*—Berehaven is an admirable harbour and easily made, 132.—It is rather a blind harbour, but could easily be improved by a small tower or light-ship placed at the western entrance, *ib.*—To make it fit for a Packet Station, a landing place and graving-dock would be necessary, *ib.*—It is a capacious natural harbour, with ample depth of water and two entrances, *ib.*—It lies in a bold, advanced position, only 2,177 miles from Halifax, and is *the* harbour of Ireland *par excellence*. The difficulty is to reach it by railroad, unless at a heavy expense, owing to the rugged nature of the country. The cost of the 64 miles of railway from Bandon to Berehaven estimated at 642,750*l*, *ib.*—In the event of a Packet Station being established in the Shannon, the lights on the west coast of Ireland should be altered in position, and increased in number, *ib.*—The lights are too few on the south-western coast. Except the light on the Skelligs, there is none between Loop Head and Cape Clear, and there are some dangerous outlying rocks, *ib.*—From the Loop Head to the Skelligs, a distance of about 70 miles, and from the Skelligs to Cape Clear, 55 miles, there is no coast light, *ib.*—The Foze Rock, at the outer extreme of the Blaskets, or Tiraught, and the Bull, would be the right places for lights, and they would divide the coast into nearly equal distances. The Skelligs light would then become unnecessary, *ib.*—Valentia an excellent harbour when once inside, with the advantage of being the most western port in Ireland, and only 2,145 miles from Halifax; but a difficult place to make, *ib.*—Should be sorry to have to run a steamer into Valentia in a gale from the westward, as the entrance is extremely narrow, and directly from the ocean, *ib.*—The northern entrance is at present 450 feet, or little more than half the width of the entrance into the artificial harbour of Kingstown, *ib.*—When once inside it is a very good harbour, and is at an extreme salient point upon the west coast, *ib.*—If used as a Packet Station, it would require a landing pier and graving-dock to be constructed, *ib.*—The nearest railroad at present

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Washington, Captain, R.N.—continued.
is at Mallow, about 70 miles distant, *ib.*—Dingle Bay has not a very good reputation; the upper end by Killorglin, is full of shoals, *ib.*—All the harbours on the south-west coast of Ireland are wanting a graving-dock and landing pier, *ib.*—At Tarbert a landing pier of at least 500 yards in length would be wanted, *ib.*—At Foynes a landing would be more easily made; there is much deeper water close to the shore, *ib.*—Belfast has a very large and increasing trade, *ib.*—It is the most enterprising and the most prosperous port in Ireland. The Trustees have laid out 400,000*l.* in improvements within the last 10 years, *ib.*—The tonnage that entered the port and cleared out in 1850 was 624,113 tons, *ib.*—Understands that nearly all the plain and coloured gingham muslins which are sold in Glasgow, as well as those made for Carlisle houses, are manufactured in the country around Belfast, and in the counties of Antrim and Derry, *ib.*—Upon the whole, would recommend that there should be a port of call for the mails, either at Cork or at Crookhaven; Cork is quite ready at the present moment, *ib.*—Until the landing jetty is built, would moor a hulk in the harbour at Cove, and have a small river steamer to go up to Monkstown or to Passage, in connexion with the railway, *ib.*—Would bring the vessel through the gorge up to Passage; but should much prefer to moor a hulk in the harbour at Cove, to the south-east of Spike Island, out of the fairway and out of the tide, *ib.*—If the large steamer is to go up alongside a jetty in connexion with the railway, then Monkstown would be the point, supposing the railway extended thither. A graving-dock, also, eventually should be constructed at

Washington, Captain, R.N.—continued.
Haulbowline, *ib.*—A graving-dock is much wanted at Haulbowline for the Queen's service, and it would be a great benefit to both services, *ib.*—Is decidedly of opinion that a port of call in Ireland is extremely desirable, and that Cork offers every facility for such a purpose, 133.—A steamer need not go more than 18 miles out of her course, including going and returning, even if she went up to Passage, the delay need not exceed four hours, *ib.*—Crookhaven would be still better, being 60 miles in advance of Cork, if a railway were made to Bandon, *ib.*—It is only 2,170 miles from Halifax, and the mails might cross the Atlantic in seven days, *ib.*

Whitehaven—Nova Scotia:—
Can never be made a packet station, *Cunard*, 128.—It is closed by ice in winter, and the ice from the gulf and coast of Newfoundland is driven in by the east wind, rendering it unapproachable frequently for two months in the spring, *Cunard*, 128.—The navigation is very often interrupted, not only by being frozen up in winter, but by the floating ice which is driven on that part of the coast at a later season by the currents, *Archibald*, 168.—Thinks the projected railroad from New York to Whitehaven will not be carried out, *Cunard*, 128.—It will be carried either to Whitehaven or Halifax, *Daly*, 265.—Whitehaven the worst port which could be selected for a packet station, *Archibald*, 168.—Although Whitehaven is some miles nearer Europe than Halifax, yet its liability to prolonged obstruction by ice unfits it for a packet station, *ib.* 273.—It is very inferior to Halifax, *Robinson*, 323.

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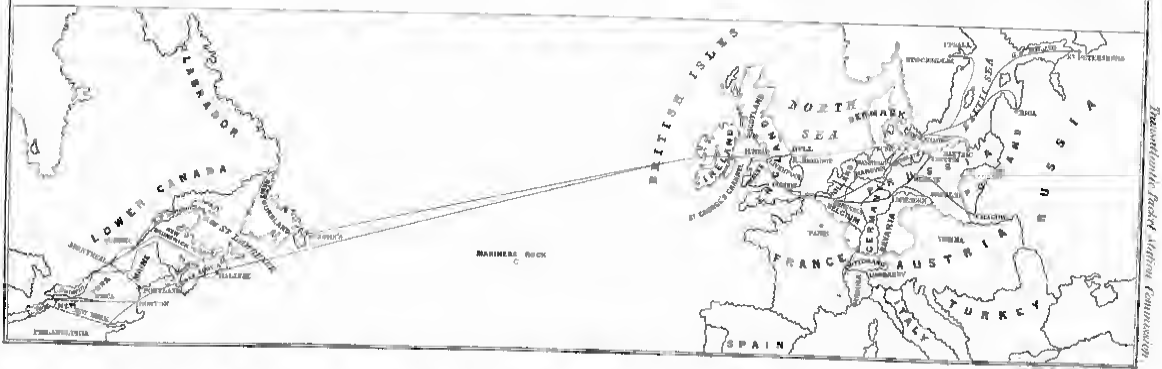
PLAN

For Establishing a

CENTRAL WESTERN PACKET STATION AT THE PORT OF GALWAY, ON IRELAND'S WESTERN COAST,

Completing the Steam Communication from London and from St Petersburg across the British Isles to Halifax Boston & New York

THE LONGEST AND STRAIGHTEST EVER MADE OR CONTEMPLATED IN THE WORLD.



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